

[H.A.S.C. No. 108-26]

108
Y 4.AR 5/2 A:
2003-2004/26

HEARINGS

ON

NATIONAL DEFENSE AUTHORIZATION ACT
FOR FISCAL YEAR 2005—H.R. 4200

AND

OVERSIGHT OF PREVIOUSLY AUTHORIZED
PROGRAMS

BEFORE THE

COMMITTEE ON ARMED SERVICES
HOUSE OF REPRESENTATIVES
ONE HUNDRED EIGHTH CONGRESS

SECOND SESSION

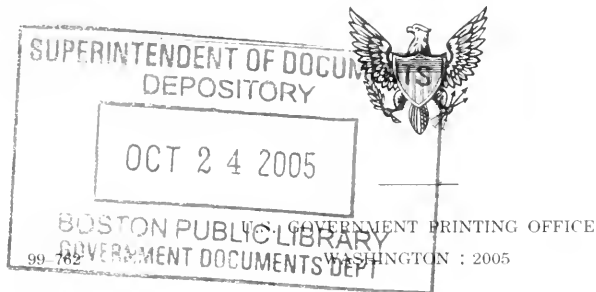
STRATEGIC FORCES SUBCOMMITTEE HEARINGS

ON

TITLE I—PROCUREMENT
TITLE II—RESEARCH, DEVELOPMENT,
TEST, AND EVALUATION
TITLE X—GENERAL PROVISIONS
TITLE XXXI—DEPARTMENT OF ENERGY
NATIONAL SECURITY PROGRAMS
TITLE XXXII—DEFENSE NUCLEAR
FACILITIES SAFETY BOARD

HEARINGS HELD

FEBRUARY 25, MARCH 18, 25, 2004



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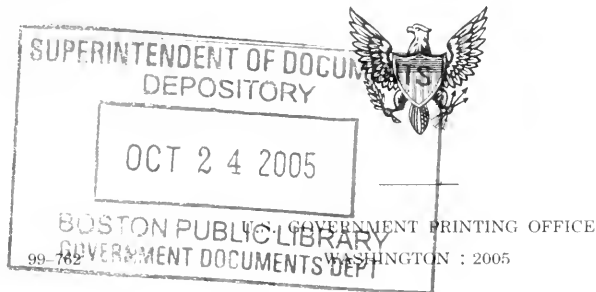
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STRATEGIC FORCES SUBCOMMITTEE

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H. R. 4200

To authorize appropriations for fiscal year 2005 for military activities of the Department of Defense, to prescribe military personnel strengths for fiscal year 2005, and for other purposes.

IN THE HOUSE OF REPRESENTATIVES

APRIL 22, 2004

MR. HUNTER (for himself and Mr. SKELTON) (both by request) introduced the following bill; which was referred to the Committee on Armed Services

A BILL

To authorize appropriations for fiscal year 2005 for military activities of the Department of Defense, to prescribe military personnel strengths for fiscal year 2005, and for other purposes.

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled,

TITLE I—PROCUREMENT

Subtitle A—Authorization of Appropriations

SEC. 101. ARMY.

Funds are hereby authorized to be appropriated for fiscal year 2005 for procurement for the Army as follows:

- (1) For aircraft, \$2,658,241,000.
- (2) For missiles, \$1,398,321,000.
- (3) For weapons and tracked combat vehicles, \$1,639,695,000.
- (4) For ammunition, \$1,556,902,000.
- (5) For other procurement, \$4,240,896,000.

SEC. 102. NAVY AND MARINE CORPS.

(a) NAVY.—Funds are hereby authorized to be appropriated for fiscal year 2005 for procurement for the Navy as follows:

- (1) For aircraft, \$8,767,867,000.
- (2) For weapons, including missiles and torpedoes, \$2,101,529,000.
- (3) For shipbuilding and conversion, \$9,962,027,000.
- (4) For other procurement, \$4,834,278,000.

(b) MARINE CORPS.—Funds are hereby authorized to be appropriated for fiscal year 2005 for procurement for the Marine Corps in the amount of \$1,190,103,000.

(c) NAVY AND MARINE CORPS AMMUNITION.—Funds are hereby authorized to be appropriated for fiscal year 2005 for procurement of ammunition for the Navy and Marine Corps in the amount of \$858,640,000.

SEC. 103. AIR FORCE.

Funds are hereby authorized to be appropriated for fiscal year 2005 for procurement for the Air Force as follows:

- (1) For aircraft, \$13,163,174,000.
- (2) For missiles, \$4,718,313,000.
- (3) For procurement of ammunition, \$1,396,457,000.
- (4) For other procurement, \$13,283,557,000.

SEC. 104. DEFENSE-WIDE ACTIVITIES.

Funds are hereby authorized to be appropriated for fiscal year 2005 for Defense-wide procurement in the amount of \$2,883,302,000.

Subtitle B—Multiyear Procurement Authorization

SEC. 111. MULTIYEAR PROCUREMENT AUTHORITY FOR THE LIGHT WEIGHT 155 MILLIMETER HOWITZER PROGRAM.

The Secretary of the Navy may, in accordance with section 2306b of title 10, United States Code, enter into a multiyear contract, beginning with the fiscal year 2005 program year, for procurement of the light weight 155 millimeter howitzer.

TITLE II—RESEARCH, DEVELOPMENT, TEST, AND EVALUATION

Subtitle A—Authorization of Appropriations

SEC. 201. AUTHORIZATION OF APPROPRIATIONS.

Funds are hereby authorized to be appropriated for fiscal year 2005 for the use of the Department of Defense for research, development, test, and evaluation, as follows:

- (1) For the Army, \$9,266,258,000.
- (2) For the Navy, \$16,346,391,000.
- (3) For the Air Force, \$21,114,667,000.
- (4) For Defense-wide activities, \$21,044,972,000, of which \$305,135,000 is authorized for the Director of Operational Test and Evaluation.

Subtitle B—Ballistic Missile Defense

SEC. 211. FUNDING FOR MISSILE DEFENSE AGENCY.

(a) Funds appropriated under the heading “Research, Development, Test and Evaluation, Defense-Wide” for the Missile Defense Agency may, upon approval by the Secretary of Defense, be used for the development and fielding of ballistic missile defense capabilities.

(b) This section shall be effective for fiscal years after Fiscal Year 2004.

* * * * *

TITLE X—GENERAL PROVISIONS

Subtitle A—Financial Matters

SEC. 1001. CAPTURE OF ALL EXPIRED FUNDS FROM THE MILITARY PERSONNEL AND OPERATION AND MAINTENANCE APPROPRIATIONS ACCOUNTS FOR USE IN THE FOREIGN CURRENCY FLUCTUATIONS ACCOUNT.

Section 2779 of title 10, United States Code, is amended—

- (1) in subsection (a)(2), by striking “second fiscal year” and inserting “fifth fiscal year”; and
- (2) in subsection (d)(2), by striking “second fiscal year” and inserting “fifth fiscal year”.

SEC. 1002. REIMBURSEMENT FOR USE OF PERSONAL CELLULAR TELEPHONES WHEN USED FOR OFFICIAL GOVERNMENT BUSINESS.

(a) IN GENERAL.—(1) Chapter 134 of title 10, United States Code, is amended by inserting after section 2257 the following new section:

“§ 2258. Personal cellular telephones: reimbursement when used for Government business

“(a) GENERAL AUTHORITY.—The Secretary of Defense may reimburse members of the Army, Navy, Air Force, and Marine Corp, and civilian officers and employees of the Department of Defense, for cellular telephone use on a privately owned cellular telephone when used on official Government business. Such reimbursement shall be on a flat-rate basis.

“(b) REIMBURSEMENT RATE.—The Secretary of Defense may prescribe the reimbursement rate for purposes of subsection (a). That reimbursement rate may not exceed the equivalent Government costs of providing a cellular telephone to employees on official Government business.”.

(b) CLERICAL AMENDMENT.—The table of sections at the beginning of subchapter II of such chapter is amended by inserting after the item relating to section 2257 the following new item:

“2258. Personal cellular telephones: reimbursement when used for Government business.”

SEC. 1003. PURCHASE OF PROMOTIONAL ITEMS OF NOMINAL VALUE FOR RECRUITMENT PURPOSES.

(a) IN GENERAL.—Chapter 81 of title 10, United States Code, is amended by adding at the end the following new section:

“§ 1599e. Authority to purchase items of nominal value for recruitment purposes

“The Secretary of Defense may purchase promotional items of nominal value for use in the recruitment of individuals for employment under this chapter. The Secretary shall prescribe guidelines for the administration of the preceding sentence.”.

(b) CLERICAL AMENDMENT.—The table of sections for such chapter is amended by adding at the end the following new item:

“1599e. Authority to purchase items of nominal value for recruitment purposes.”.

SEC. 1004. MICROCLAIM WAIVER AUTHORITY.

(a) IN GENERAL.—Chapter 131 of title 10, United States Code, is amended by adding at the end the following new section:

“§ 2229. General waiver authority

“(a) Pursuant to regulations published by the Secretary of Defense, the Secretary or his designees may waive indebtedness owed to the United States Government and arising out of the activities of, or referred to, the Department of Defense, and not referred to another executive or legislative agency for further collection action, when, based on a cost benefit analysis, the costs of collection are expected to exceed the amounts recoverable.

“(b) The authority pursuant to this section may be delegated to the lowest level to ensure costs of processing waivers do not exceed costs of processing collections. Exercise of this waiver authority for amounts in excess of the micropurchase threshold amount is not authorized.

“(c) Waivers under subsection (a) may be applied to indebtedness owed by military and civilian personnel, fees for jury duty, or similar items where application of the waiver authority would be more economical to the Government than processing the action to completion. Application of the waiver to any transaction is at the sole discretion of the Secretary or designee and may not be reviewed in a court of law.

“(d) Nothing in this section requires the exercise of the waiver authority and no rights are conferred hereby on any third party.”.

(b) CLERICAL AMENDMENT.—The table of sections at the beginning of such chapter is amended by adding at the end the following new item:

“2229. Microclaim waiver authority.”.

Subtitle B—Naval Vessels and Shipyards

SEC. 1011. EXCHANGE AND SALE OF OBSOLETE NAVY SERVICE CRAFT AND BOATS.

(a) IN GENERAL.—Subsection (d) of section 7305 of title 10, United States Code, is amended to read as follows:

“(d) EXCHANGE OR SALE OF SIMILAR ITEMS.—(1) Notwithstanding any other provision of law, the Secretary and his designees, in acquiring similar personal prop-

erty pursuant to section 503 of title 40, may, under regulations to be prescribed by the Secretary—

“(A) exchange or sell obsolete Navy service craft and boats, and

“(B) retain from the proceeds of the sale of such personal property amounts necessary to recover, to the extent practicable, the full costs, direct and indirect, incurred by the Navy in preparing such property for exchange or sale, including the costs for towing, storage, defueling, removal and disposal of hazardous wastes, environmental surveys to determine the presence of regulated polychlorinated biphenyl (PCB) containing materials, and if found, the removal and disposal of regulated PCB-containing materials, and other related costs.

The Secretary or his designees may use such retained proceeds in whole or in part payment for the preparation of additional obsolete Navy service craft and boats for future sale or exchange under this authority.

“(2) Such amounts shall be deposited into an account that shall be available for such costs without regard to fiscal year limitations. Amounts that are not needed to pay such costs shall be transferred at least annually to the general fund or to a specific account in the Treasury as otherwise authorized by law.

“(3) Section 3709 of the Revised Statutes does not apply to sales of property pursuant to this subsection.”.

SEC. 1012. AWARD CONTRACTS FOR SHIP DISMANTLING ON NET COST BASIS.

(a) IN GENERAL.—Chapter 633 of title 10, United States Code, is amended by inserting after section 7305 the following new section:

“§ 7305a. Contracts for ship dismantling awarded on net cost basis

“(a) AUTHORIZATION.—Notwithstanding any other provision of law, the Secretary of the Navy may award on a net cost basis contracts for the dismantling of ships stricken from the Naval Vessel Register. In exercising authority under this section, the Secretary shall to the maximum extent practicable use the competitive procedure or combination of competitive procedures that is best suited under the circumstances of the procurement.

“(b) RETENTION OF PROCEEDS.—When the Secretary of the Navy awards a ship dismantling contract on a net cost basis, the contractor may retain the proceeds from the sale of scrap and reusable items from the vessel being dismantled.

“(c) DEFINITIONS.—For purposes of this section:

“(1) The term ‘scrap’ means personal property that has no value except for its basic material content.

“(2) The term ‘net cost basis’ means the differential between the gross cost of performance of the contract less the offeror’s estimate of the value under the contract of scrap and reusable items that the contractor will remove from the vessel during performance of the contract.

“(3) The term ‘reusable items’ means any demilitarized components or removable portions of the ship or equipment that the Navy has identified as excess to its needs but which have potential resale value on the open market.”.

(b) CLERICAL AMENDMENT.—The table of sections at the beginning of such chapter is amended by inserting after the item relating to section 7305 the following new item:

“7305a. Contracts for ship dismantling awarded on net cost basis.”.

Subtitle C—Counterdrug Activities

SEC. 1021. USE OF TWO-YEAR EXTENSION OF COUNTERDRUG FUNDS FOR COUNTER TERRORISM IN COLOMBIA.

(a) AUTHORITY.—In fiscal years 2005 and 2006, the Secretary of Defense may use funds available for drug interdiction and counterdrug activities to provide assistance to the Government of Colombia to support a unified campaign against narcotics trafficking and activities by organizations designated as terrorist organizations, such as the Revolutionary Armed Forces of Colombia (FARC), the National Liberation Army (ELN), and the United Self-Defense Forces of Colombia (AUC). This includes authority to take actions to protect human health and welfare in emergency circumstances, including rescue operations for any United States citizen, to include United States armed forces personnel, United States civilian employees, and civilian contractors employed by the United States.

(b) RELATIONSHIP TO EXISTING AUTHORITY.—The authority in this section is in addition to authorities currently available to provide assistance to Colombia.

Subtitle D—Other Department of Defense Provisions

SEC. 1031. CONTROL AND SUPERVISION OF TRANSPORTATION WITHIN THE DEPARTMENT OF DEFENSE.

(a) IN GENERAL.—Title 10, United States Code, is amended as follows:

(1) Section 4744 is amended—

(A) by redesignating section 4744 as section 2648;

(B) in the first sentence, by striking “the Army” and inserting “Defense”; and

(C) in the first paragraph, by striking “Army transport agencies or, within bulk space allocations made to the Department of the Army, on vessels operated by any military transport agency of”.

(2) Section 4745 is amended—

(A) by redesignating section 4745 as section 2649;

(B) in paragraph (a)—

(i) by striking “(1) on vessels operated by Army transport agencies, or (2) within bulk space allocations made to the Department of the Army”; and

(ii) by striking “any transport agency of”; and

(C) by striking “the Army and the Secretary of Transportation” and inserting “Defense”.

(3) Section 4747 is amended—

(A) by redesignating section 4747 as section 2650;

(B) by striking “Army transport agencies or, within bulk space allocations made to the Department of the Army, on vessels operated by any transport agency of”; and

(C) by striking “the Army” and inserting “Defense”.

(4) Section 4741 is repealed.

(5) Section 4743 is repealed.

(6) Section 4746 is repealed.

(7) Section 9741 is repealed.

(8) Section 9743 is repealed.

(9) Section 9746 of title 10, United States Code, is amended—

(A) by redesignating section 9746 as section 2651;

(B) by inserting “vessels or” after “transported on”; and

(C) by striking “Air Force transport agencies or, within bulk space allocations made by the Department of the Air Force, on vessels or airplanes operated by any military transport agency of”;

(D) in paragraph (1), by striking “the Air Force” and inserting “Defense”; and

(E) in paragraph (4)—

(i) by striking subparagraph (A); and

(ii) by redesignating subparagraph (B) as subparagraph (A).

(b) CLERICAL AMENDMENTS.—

(1)(A) The table of sections at the beginning of chapter 447 of such title is amended by striking the item relating to section 4744.

(B) The table of sections at the beginning of chapter 157 of such title is amended by adding at the end the following new item:

“2647. Persons and supplies: sea transportation.”.

(2)(A) The table of sections at the beginning of chapter 447 of such title is amended by striking the item relating to section 4745.

(B) The table of sections at the beginning of chapter 157 of such title is amended by adding at the end the following new item:

“2648. Civilian passengers and commercial cargoes: transports in trans-Atlantic service.”.

(3)(A) The table of sections at the beginning of chapter 447 of such title is amended by striking the item relating to section 4747.

(B) The table of sections at the beginning of chapter 157 of such title is amended by adding at the end the following new item:

“2649. Passengers and merchandise to Guam: sea transport.”.

(4) The table of sections at the beginning of chapter 447 of such title is amended by striking the item relating to section 4741.

(5) The table of sections at the beginning of chapter 447 of such title is amended by striking the item relating to section 4743.

(6) The table of sections at the beginning of chapter 447 of such title is amended by striking the item relating to section 4746.

(7) The table of sections at the beginning of chapter 947 of such title is amended by striking the item relating to section 9741.

(8)(A) The table of sections at the beginning of chapter 447 of such title is amended by striking the item pertaining to section 4746; and

(B) The table of sections at the beginning of chapter 157 of such title is amended by adding at the end the following new item:

"2651. Civilian personnel in Alaska."—

Subtitle E—Other Matters

SEC. 1041. REPEAL OF PROHIBITION ON CONTRACTS FOR PERFORMANCE OF SECURITY-GUARD FUNCTIONS.

Section 2465 of title 10, United States Code, is amended—

- (1) by striking "**or security-guard**" in the section heading; and
- (2) in subsection (a), by striking "or security guard".

SEC. 1042. ESTABLISHMENT OF AUXILIARIES WITHIN THE MILITARY DEPARTMENTS.

(a) IN GENERAL.—Part IV of subtitle A of title 10, United States Code, is amended by inserting after chapter 172 the following new chapter:

"CHAPTER 173—AUXILIARIES

"Sec.

"2921. Administration of auxiliaries.

"2922. Purpose of an auxiliary.

"2923. Eligibility, enrollments.

"2924. Members of the auxiliary; status.

"2925. Disenrollment.

"2926. Membership in other organizations.

"2927. Use of member's equipment and facilities.

"2928. Availability of appropriations.

"2929. Assignment and performance of duties.

"2930. Injury or death in line of duty.

"2931. Limitation on liability.

"§ 2921. Administration of auxiliaries

"(a) An auxiliary of a military department is a nonmilitary organization administered by the Secretary concerned. For command, control, and administrative purposes, the auxiliary shall include such organizational elements and units as are approved by the Secretary, which may include a national board and staff (to be known as the 'auxiliary headquarters unit'), districts, regions, divisions, and other organizational elements and units. The auxiliary organization and its officers shall have such rights, privileges, powers, and duties as may be granted to them by the Secretary, consistent with this title and other applicable provisions of law. The Secretary may designate the authority and responsibilities of the officers of the auxiliary that the Secretary considers necessary or appropriate for the functioning, organization, and internal administration of the auxiliary.

"(b) The national board of an auxiliary, and any auxiliary district or region, may form a corporation under State law in accordance with policies established by the Secretary.

"§ 2922. Purpose of an auxiliary

"The purpose of an auxiliary is to assist the military department under which it is established, as authorized by the Secretary concerned, in performing any non-combat function, power, duty, role, mission, or operation authorized by law for that military department.

"§ 2923. Eligibility, enrollments

"An auxiliary shall be composed of citizens of the United States, who by reason of their special training or experience are deemed by the Secretary concerned to be qualified for duties and functions of the auxiliary, and who may be enrolled therein pursuant to regulations established by the Secretary.

“§ 2924. Members of the auxiliary; status

“(a) Except as otherwise provided in this chapter, a member of an auxiliary shall not be considered a Federal employee.

“(b) A member of an auxiliary, while performing duty, shall be considered to be a Federal employee for the purposes of the provisions of law relating to—

“(1) ethics, conflicts of interest, corruption, and any other criminal or civil statutes and regulations governing the conduct of Federal employees;

“(2) compensation for work injuries under chapter 81 of title 5; and

“(3) resolution of claims relating to damage to or loss of personal property of the member incident to service under section 3721 of title 31.

“(c) A member of the auxiliary, while assigned to duty, shall be deemed to be a person acting under an officer of the United States or an agency thereof for purposes of section 1442(a)(1) of title 28.

“(d) A member of the auxiliary, while assigned to duty, shall be deemed to be a member of a uniformed service for purposes of sections 2928 and 2930 of this title.

“§ 2925. Disenrollment

“Members of an auxiliary may be disenrolled pursuant to applicable regulations established by the Secretary concerned.

“§ 2926. Membership in other organizations

“Members of an auxiliary may be appointed or enlisted in a Reserve component, pursuant to applicable regulations. Membership in the auxiliary shall not bar membership in any other naval or military organization.

“§ 2927. Use of member's equipment and facilities

“At no cost to the government, the Secretary concerned may utilize for any purpose incident to carrying out his department's functions and duties, equipment or facilities placed at his department's disposition for any such purpose by any member of the auxiliary while performing duties or missions assigned by the Secretary.

“§ 2928. Availability of appropriations

“Appropriations authorized for operation and maintenance of a military department may be used to pay actual necessary traveling expenses and subsistence, or commutation of ration allowance in lieu of subsistence, of members of the auxiliary assigned to authorized duties, but shall not be available for the payment of compensation for personal services, incident to such operation, other than to personnel of the military department.

“§ 2929. Assignment and performance of duties

“No member of an auxiliary, solely by reason of such membership, shall be vested with, or exercise, any right, privilege, power, or duty vested in or imposed upon the personnel of the military department concerned, except that any such member may, under applicable regulations, be assigned duties which, after appropriate training and examination, he has been found competent to perform, to effectuate the purposes of the auxiliary. No member of the auxiliary shall be placed in charge of an activity or organization assigned to the military department unless he has been designated specifically by authority of the Secretary concerned to perform such duty. Members of the auxiliary, when assigned to duties as herein authorized, shall, unless otherwise limited by the Secretary concerned, be vested with the same power and authority in the execution of such duties as members of the regular or Reserve components of that military department assigned to similar duty. When any member of the auxiliary is assigned to such duty, he may, pursuant to regulations issued by the Secretary, be paid actual necessary traveling expenses, including a per diem allowance in conformity with standardized Government travel regulations in lieu of subsistence, while traveling and while on duty away from his home. No per diem shall be paid for any period during which quarters and subsistence in kind are furnished by the Government. No member of an auxiliary, while performing auxiliary duty, shall exercise command.

“§ 2930. Injury or death in line of duty

“(a) If a member of an auxiliary is physically injured, or dies as a result of physical injury, and the injury is incurred while performing any duty to which he has been assigned pursuant to this chapter, the law authorizing compensation for employees of the United States suffering injuries while in the performance of their duties, applies, subject to this section. That law shall be administered by the Secretary of Labor to the same extent as if the member was a civil employee of the United States and was injured in the performance of that duty. For benefit computation, regardless of pay or pay status, the member is considered to have had monthly pay

of the monthly equivalent of the minimum rate of basic pay in effect for grade GS-9 of the General Schedule on the date the injury is incurred.

"(b) This section does not apply if a worker's compensation law provides coverage because of a concurrent employment status of the member. When the member or a dependent is entitled to a benefit under this section and also to a concurrent benefit from the United States on account of the same disability or death, the member or dependent, as appropriate, shall elect which benefit to receive.

"(c) If a claim is filed under this section with the Secretary of Labor for benefits because of an alleged injury or death, the Secretary of Labor shall notify the Secretary concerned who shall direct an investigation into the facts surrounding the alleged injury or death. The Secretary then shall certify to the Secretary of Labor whether or not the injured or deceased person was a member of an auxiliary, the person's military status, and whether or not the injury or death was incurred incident to military service.

"(d) A member of an auxiliary who incurs a physical disability or contracts sickness or disease while performing a duty to which the member has been assigned pursuant to this chapter is entitled to the same hospital treatment afforded a member of the Reserves of the armed forces while serving on active duty.

"(e) In administering section 8133 of title 5, for a person covered by this section—

"(1) the percentages applicable to payments under that section are—

"(A) 45 percent under subsection (a)(2) of that section, where the member died fully or currently insured under title II of the Social Security Act (42 U.S.C. 401 et seq.), with no additional payments for a child or children so long as the widow or widower remains eligible for payments under that subsection;

"(B) 20 percent under subsection (a)(3) of that section, for one child, and 10 percent additional for each additional child, not to exceed a total of 75 percent, where the member died fully or currently insured under title II of the Social Security Act; and

"(C) 25 percent under subsection (a)(4) of that section, if one parent was wholly dependent for support upon the deceased member at the time of the member's death and the other was not dependent to any extent; 16 percent to each if both were wholly dependent; and if one was, or both were, partly dependent, a proportionate amount in the discretion of the Secretary of Labor;

"(2) payments may not be made under subsection (a)(5) of that section; and

"(3) the Secretary of Labor shall inform the Commissioner of Social Security whenever a claim is filed and eligibility for compensation is established under section 8133(a)(2) and (3) of title 5. The Commissioner of Social Security then shall certify to the Secretary of Labor whether or not the member concerned was fully or currently insured under title II of the Social Security Act at the time of the member's death.

"§ 2931. Limitation on liability

"A member of an auxiliary, while assigned to duty, shall be deemed a volunteer of a nonprofit organization or governmental entity for purposes of chapter 139 of title 42 (popularly known as the 'Volunteer Protection Act'). Subsection (d) of section 4 of such Act (42 U.S.C. 14503(d)) shall not apply for purposes of any claim against a member of an auxiliary."

(b) CLERICAL AMENDMENT.—The tables of chapters at the beginning of such subtitle and the beginning of part I of such subtitle are amended by inserting after the item relating to chapter 172 the following new item:

"173. Auxiliaries 2921".

SEC. 1043. NATIONAL DEFENSE HERITAGE FOUNDATION.

(a) IN GENERAL.—Part IV of subtitle A of title 10, United States Code is amended by adding at the end the following new chapter:

"CHAPTER 173—NATIONAL DEFENSE HERITAGE FOUNDATION

"Sec.

"2905. Establishment and purpose.

"2906. Composition and operation.

"2907. Corporate powers and obligations.

"2908. Liability of United States.

"2909. Promotion of local fundraising support.

"2910. Authorization of appropriations.

"§ 2905. Establishment and purpose

"(a) **ESTABLISHMENT.**—A National Defense Heritage Foundation is hereby established as a charitable and nonprofit corporation for the purposes specified in subsection (b), and shall be organized and operated as a charitable foundation under title 76, section 501(c)(3), United States Code.

"(b) **PURPOSES.**—The Foundation shall encourage, accept, and administer private gifts of money and real and personal property or any income therefrom for the benefit of, or in connection with, the preservation, protection, and continued beneficial use of historic properties owned or controlled by the Department of Defense.

"§ 2906. Composition and operation—

"(a) **BOARD OF DIRECTORS.**—The National Defense Heritage Foundation shall be governed by a Board of Directors that shall consist of—

"(1) the Secretary of Defense, ex officio;

"(2) the Secretaries of the Military Departments, ex officio;

"(3) the Director of the National Park Service, ex officio;

"(4) five experts in the field of historic preservation appointed by the Secretary of Defense from the disciplines of architecture, history, archeology, or other appropriate disciplines;

"(5) three at-large members from the general public appointed by the Secretary of Defense; and

"(6) the Chairman of the Advisory Council on Historic Preservation, ex officio.

"(b) **TERM OF APPOINTMENT.**—The initial terms of the five historic preservation experts and the three at-large members shall be staggered to assure continuity of administration. Thereafter, the term shall be six years, unless a successor is chosen to fill a vacancy occurring prior to the expiration of the term for which his predecessor was chosen, in which event the successor shall be chosen only for the remainder of that term.

"(c) **CHAIRPERSON AND SECRETARY.**—The Secretary of Defense shall be the Chairman of the Board and the Director of the National Park Service shall be the Secretary of the Board.

"(d) **MEMBERSHIP AND OPERATION.**—Except as to those Board members serving in their official capacities, service as a member of the Board shall not constitute employment by, or the holding of, an office of the United States for the purposes of any Federal law. A majority of the members of the Board serving at any one time shall constitute a quorum for the transaction of business, and the Foundation shall have an official seal, which shall be judicially noticed. The Board shall meet at the call of the Chairman and there shall be at least one meeting each year.

"(e) **COMPENSATION AND TRAVEL EXPENSES.**—No compensation shall be paid to the members of the Board for their services as members, but they shall be reimbursed for actual and necessary traveling and subsistence expenses incurred by them in the performance of their duties as such members out of National Defense Heritage Foundation funds available to the Board for such purposes.

"(f) **VOLUNTEER STATUS.**—The Secretary of Defense may accept, without regard to civil service classification laws, rules, or regulations, the services of the Foundation, the Board, and the officers and employees of the Board, without compensation from the Department of Defense, as volunteers in the performance of the functions authorized herein.

"(g) **EMPLOYEES.**—An officer or employee of the Foundation—

"(1) shall not by virtue of the appointment or employment of the office or employee, be considered a Federal employee for any purpose; and

"(2) may not be paid by the Foundation a salary in excess of \$134,000 per year.

"§ 2907. Corporate powers and obligations

"(a) **GIFTS.**—(1) The Foundation is authorized to accept, receive, solicit, hold, administer, and use any gifts, devises, or bequests, either absolutely or in trust, of real or personal property or any income therefrom or other interest therein for the benefit of or in connection with, the preservation, protection, and continued beneficial use of historic properties owned or controlled by the Department of Defense; provided, that the Foundation may not accept any such gift, devise, or bequest that entails any expenditure other than from the resources of the Foundation.

"(2) An interest in real property includes, among other things, easements or other rights for preservation, conservation, protection, or enhancement of historic properties.

"(3) A gift, device, or bequest may be accepted by the Foundation even though it is encumbered, restricted, or subject to beneficial interests of private persons if any current or future interest therein supports the purposes for which the Foundation has been established.

"(b) PROPERTY AND INCOME DEALINGS AND TRANSACTIONS.—(1) Except as otherwise required by the instrument of transfer, the Foundation may sell, lease, invest, reinvest, retain, or otherwise dispose of or deal with any property or income thereof as the Board may from time to time determine.

"(2) The Foundation shall not engage in any business, nor shall the Foundation make any investment that may not lawfully be made by a trust company in the District of Columbia, except that the Foundation may make any investment authorized by the instrument of transfer, and may retain any property accepted by the Foundation.

"(3) The Foundation may utilize the services and facilities of the Department of Defense, the Department of the Interior, and the Department of Justice, and such services and facilities may be made available on request to the extent practicable with or without reimbursement therefore. Monies reimbursed to any Department shall be returned by the Department to the account from which the funds for which the reimbursement is made were drawn and may, without further appropriation, be expended for any purpose for which such account is authorized.

"(c) CORPORATE SUCCESSION; POWERS AND DUTIES OF TRUSTEE; SUITS; PERSONAL LIABILITY FOR MALFEASANCE.—The Foundation shall have perpetual succession, with all the usual powers and obligations of a corporation acting as a trustee, including the power to sue and to be sued in its own name, but the members of the Board shall not be personally liable, except for malfeasance.

"(d) AUTHORITY FOR EXECUTION OF CONTRACTS, INSTRUMENTS, AND NECESSARY OR APPROPRIATE ACTS.—The Foundation shall have the power to enter into contracts, to execute instruments, and generally to do any and all lawful acts necessary or appropriate to its purposes.

"(e) BYLAWS, RULES, AND REGULATIONS; CONTRACTS FOR SERVICES.—In carrying out the provisions of this subchapter, the Board may adopt bylaws, rules, and regulations necessary for the administration of its functions and contract for any necessary services.

"§ 2908. Liability of United States

"The United States shall not be liable for any debts, defaults, acts, or omissions of the Foundation.

"§ 2909. Promotion of local fundraising support

"(a) ESTABLISHMENT.—The Foundation shall design and implement a comprehensive program to assist and promote philanthropic programs of support at the individual military installation level.

"(b) IMPLEMENTATION.—The program under subsection (a) shall be implemented to—

"(1) assist in the creation of local nonprofit support organizations; and

"(2) provide support, national consistency, and management-improving suggestions for local nonprofit support organizations.

"(c) PROGRAM.—The program under subsection (a) shall include the greatest number of military installations as is practicable.

"(d) REQUIREMENTS.—The program under subsection (a) shall include, at a minimum—

"(1) a standard adaptable organizational design format to establish and sustain responsible management of a local nonprofit support organization for support of a military installation;

"(2) standard and legally tenable bylaws and recommended money-handling procedures that can easily be adapted as applied to individual military installations; and

"(3) a standard training curriculum to orient and expand the operating expertise of personnel employed by local nonprofit support organizations.

"(e) ANNUAL REPORT.—The Foundation shall report the progress of the program under subsection (a) in the annual report of the Foundation.

"(f) AFFILIATIONS.—(1) Nothing in this section requires:

"(A) a nonprofit support organization or friends group to modify current practices or to affiliate with the Foundation; or

"(B) a local nonprofit support organization, established as a result of this section, to be bound through its charter or corporate bylaws to be permanently affiliated with the Foundation.

"(2) An affiliation with the Foundation shall be established only at the discretion of the governing board of a nonprofit organization.

"§ 2910. Authorization of appropriations

"(a) AUTHORIZATION.—There are authorized to be appropriated to the Department of Defense such sums as may be necessary to achieve the purposes of the Foundation.

"(b) USE OF AMOUNTS APPROPRIATED.—(1) Subject to paragraph (2), amounts appropriated under this section shall be made available to the Foundation for use for matching, in whole or in part, contributions (whether in currency, services, or property) made to the Foundation by private persons and State and local government agencies.

"(2) No Federal funds authorized under this section shall be used by the —foundation for administrative expenses of the Foundation, including salaries, travel and —transportation expenses, and other overhead expenses.

"(c) ADDITIONAL AUTHORIZATION.—The amounts authorized to be appropriated under this section are in addition to any amounts provided or available to the Foundation under any other Federal law."

(b) CLERICAL AMENDMENT.—The table of chapters of part IV of subtitle A of such title is amended by adding at the end the following new item:

"173. National Defense Heritage Foundation 2905".

SEC. 1044. CONFORMING AMENDMENTS TO GENERAL DEFINITIONS.

(a) IN GENERAL.—Section 101(e)(3) of title 10, United States Code, is amended by striking "Secretary of Defense" and inserting "Secretary concerned".

(b) CONFORMING AMENDMENTS TO DEFINITION OF CONGRESSIONAL DEFENSE COMMITTEES.—Title 10 is further amended as follows:

(1) Sections 2676(d), 2694a(e), 2803(b), 2804(b), 2805(b)(2), 2806(c)(2), 2807(b), 2807(c), 2808(b), 2809(f)(1), 2811(d), 2812(c)(1)(A), 2813(c), 2814(a)(2)(A), 2814(g)(1), 2825(b)(1), 2827(b), 2828(f), 2835(g), 2836(f), 2837(c)(2), 2853(c)(2), 2854(b), 2854a(c)(1), 2865(e)(2), 2866(c)(2), 2875(e), 2881a(d)(2), 2881a(e), 2883(f), and 2884(a), are amended by striking "appropriate committees of Congress" in each place it appears and inserting "congressional defense committees".

(2)(A) Subsection (c) of section 2801 is amended by striking paragraph (4) and inserting the following new paragraph (4):

"(4) The term 'congressional defense committees' includes, with respect to any project to be carried out by, or for the use of, an intelligence component of the Department of Defense, the Permanent Select Committee on Intelligence of the House of Representatives and the Select Committee on Intelligence of the Senate.";

(B) Section 2694a is amended by striking subsection (i) and inserting the following new subsection (i):

"(i) DEFINITION OF STATE.—The term 'State' includes the District of Columbia, the Commonwealth of Puerto Rico, the Commonwealth of the Northern Mariana Islands, and the Territories."

(c) CONFORMING AMENDMENTS TO DEFINITION OF BASE CLOSURE LAWS.—(1) Section 2871 of such title is amended by redesignating paragraphs (3) through (8) as paragraphs (2) through (7), respectively.

(2) Section 3341(c) of title 5, United States Code, is amended by striking paragraph (1) and inserting the following new paragraph (1):

"(1) the term 'base closure law' has the meaning given such term in section 101(a)(17) of title 10."

(3) Title 40, United States Code, is amended—

(A) in section 554(a), by striking paragraph (1) and inserting the following new paragraph (1):

"(1) BASE CLOSURE LAW.—The term 'base closure law' has the meaning given such term in section 101(a)(17) of title 10."; and

(B) in section 572(b), by striking subparagraph (B) of paragraph (1) and inserting the following new subparagraph (B):

"(B) BASE CLOSURE LAW.—The term 'base closure law' has the meaning given such term in section 101(a)(17) of title 10."

(4) Section 120(h)(4)(E) of the Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (Public Law 96-510; 42 U.S.C. § 9620(h)) is amended by striking clause (ii) and inserting the following new clause (ii):

"(ii) For purposes of this paragraph, the term 'base closure law' has the meaning given such term in 10 U.S.C. § 101(a)(17)."

(5) Section 1333(i) of the National Defense Authorization Act for Fiscal Year 1994 (Public Law 103-160; 107 Stat. 1800), is amended by striking paragraph (1) and inserting the following new paragraph (1):

“(1) The term ‘base closure law’ has the meaning given such term in 10 U.S.C. § 101(a)(17).”.

(6) Section 2814 of the National Defense Authorization Act for Fiscal Year 1995 (Public Law 103-337, 108 Stat. 3056), is amended by striking subsection (b) and inserting the following new subsection (b):

“(b) BASE CLOSURE LAW DEFINED.—The term ‘base closure law’ has the meaning given such term in 10 U.S.C. § 101(a)(17).”.

(7) Section 1(c) of An Act to Amend the Organic Act of Guam, and for other purposes (Public Law 106-504; 114 Stat. 2309), is amended by striking paragraph (2) and inserting the following new paragraph (2):

“(2) The term ‘base closure law’ has the meaning given such term in 10 U.S.C. § 101(a)(17).”.

SEC. 1045. USE OF DEPARTMENT OF DEFENSE FITNESS FACILITIES BY CONTRACT WORKERS.

(a) IN GENERAL.—The Secretary of Defense may authorize employees of Department of Defense contractors to use Department of Defense-owned, Department of Defense-operated fitness facilities if the Secretary determines that such use is in the best interest of the Department of Defense and causes no more than a de minimis increase in the cost of operation of such facilities. Active duty and Government civilian personnel will be granted top priority status for use of such facilities where availability is limited.

(b) LIABILITY WAIVER.—In order to use such facilities, the contractor and the employee must agree to waive any claims of liability against the Government, and to its officers, employees, and agents arising from such use.

* * * * *

FISCAL YEAR 2005 NATIONAL DEFENSE AUTHORIZATION ACT—BUDGET REQUEST FOR SPACE ACTIVITIES

HOUSE OF REPRESENTATIVES,
COMMITTEE ON ARMED SERVICES,
STRATEGIC FORCES SUBCOMMITTEE,
Washington, DC, Wednesday, February 25, 2004.

The subcommittee met, pursuant to call, at 2 p.m., in room 2212, Rayburn House Office Building, Hon. Terry Everett (chairman of the subcommittee) presiding.

OPENING STATEMENT OF HON. TERRY EVERETT, A REPRESENTATIVE FROM ALABAMA, CHAIRMAN, STRATEGIC FORCES SUBCOMMITTEE

Mr. EVERETT. The hearing will come to order.

The subcommittee is meeting today to receive testimony on the Department of Defense space programs in its fiscal year 2005 budget request for space activities.

I want to welcome Peter Teets, who is testifying today as the head of national security space programs. I also want to welcome, seated behind Secretary Teets, the service space program head representing the Air Force, General Lance Lord, Commander, Air Force space program; for the Army, Lieutenant General Larry Dodgen, Commander, Space and Missile Defense Command; from the Navy, Rear Admiral Rand Fisher, Space and Naval Warfare Systems, Command Director; and finally, Brigadier General John Thomas, Director of Command, Control, Communications, and Computers (C4), and Chief Information Officer for the Marine Corps.

Welcome all.

Following Secretary Teets' remarks, I invite you to join him at the witness table as committee members ask questions.

We have a great deal of ground to cover today. I want to allow each of our members a great opportunity—as much opportunity as possible to ask questions, so I will be brief.

Likewise I will ask you, Mr. Secretary, to be brief with your opening and prepared remarks. The entirety of your written statement will be entered into the record.

This is the second gathering of this panel led by Under Secretary Teets. He is the first person to serve as the overall head of national security space programs. Consolidation of space activities under a single executive agency was a strong recommendation of the Space Commission. On the one hand, the Secretary oversees the area of technology that is rapidly growing in importance and, on the other hand, he has inherited many space programs that have experienced growth, cost growth and schedule delays. These issues are of para-

mount concern to this committee and to the Congress as an institution.

When we last met one year ago, we were at the lessons learned stage of coming off the major conflict, Operation Enduring Freedom in Afghanistan. Now we have come full circle and have further applied these precious space resources to another conflict, Operation Iraqi Freedom. Our success in these difficult missions would not be possible without the space-based capabilities used by the witnesses who appear before you here today.

The Secretary faces the institutional hurdle of better integrating military and Intelligence Community space activities, which promises to benefit both user communities as well as provide more valuable service to the taxpayer. Are we using these resources to the best of our abilities? If not, Mr. Secretary I would ask you today, how is it that Congress can help you use them better?

Further, Secretary Teets is faced with the difficulty of maintaining assured access to space while transitioning from legacy space boosters to a new family of expendable launch vehicles. And this comes during a period when reduced commercial losses place additional financial pressures on both suppliers.

Finally, another challenge highlighted almost daily in the press is a planned transition from existing space-based communications systems to a new transformational communication system based on laser interconnection. This system is to provide the increased information handling capability of our future forces requirement. The bottom line is that it is very difficult to see how with the constrained resources available we will be able to adequately fund maintenance of existing capabilities while fielding further image architecture and developing competitive future systems like space-based radar and the transformation of communications systems satellites.

At this time, I would like to recognize my friend and ranking member, Mr. Reyes, for any comments he would make.

[The prepared statement of Mr. Everett can be found in the Appendix on page 31.]

STATEMENT OF HON. SILVESTRE REYES, A REPRESENTATIVE FROM TEXAS, RANKING MEMBER, STRATEGIC FORCES SUB-COMMITTEE

Mr. REYES. Thank you, Mr. Chairman.

I want to join you in welcoming our distinguished witness, Under Secretary of the Air Force, Mr. Teets. I also want to welcome the top military officer on space matters from each of our services. We appreciate your service and the service that you provide our country, and we particularly appreciate your taking time from your busy schedules to be here with us today.

Space assets have become vital to our warfighters. Our command, control and communications systems depend on them. They are critical to the performance of our position-guided munitions. Our various satellite systems provide our warriors in the field, in the air, and at sea with vital intelligence in real time or on a near real-time basis. And as we rely more and more on unmanned systems and move to lighter and more mobile communities, like our Stryker Brigades on the future combat system, secured trans-

mission of accurate intelligence becomes ever much more important. Clearly, our reliance on space will only increase in the future.

Our witnesses will present highlights of the 2005 budget and that request, but I hope our witnesses and my colleagues can focus on two programs in particular: The space-based radar called SBR and the transformational communications system, or TSAT. TSAT has entered the design phase and transitioning in the latter stages of concept definition; in other words, they were moving from being grand ideas that exist primarily in viewgraphs to becoming real-life programs.

Not surprisingly, as these programs become more tangible, they become ever more costly. The request for SBRs is \$328 million for 2005, up \$155 million, which is about 90 percent more from the 2004 level of \$173 million. The Pentagon cost analysis improvement group estimates that fielding, maintaining and operating a nine-satellite SBR constellation with one spare will cost about \$34 billion through 2026 in constant 2004 dollars. And a nine-satellite constellation will not give optimum performance because there will be gaps in its coverage. Twenty-one satellites are believed to be needed to prevent these gaps, but no cost estimate is available for a constellation of that size to date.

Likewise, TSAT promises to be very expensive. The 2005 budget request for TSAT is \$775 million, up \$439 million, or about 131 percent, from the 2004 level of \$335 million. No total cost estimate for TSAT has even been worked up by our Pentagon.

By highlighting the cost of these programs, I am not trying to imply that we should not be pursuing them, but there is no denying that these costs are significant, even among other things by Department of Defense (DOD) standards.

As SBR and TSAT move closer to selecting the contracting teams, Congress I believe, has a duty to closely evaluate these programs. I hope Secretary Teets and our other witnesses place special emphasis on these programs when laying out the budget request.

I also hope our witnesses can talk about what efforts are being taken to reduce the cost of operating in space. In my mind this involves two parallel tracks—reducing the cost of launching satellites into space and then reducing the weight of our satellites. The two, I think, are clearly tied together.

I hope our witnesses will describe to us what they are doing to determine whether smaller, lighter satellites are a viable alternative to the “fat sats” that we have traditionally become used to and how much funding they are dedicating to these efforts in the 2005 budget.

Finally, I would like to hear more on what we are doing to understand the vulnerabilities of our satellites and what plans the Department may have to put both offensive and defensive weapons capabilities in space. Since we are in open session today, it is not the best day to have that discussion.

However, Mr. Chairman, I would like to ask both you and our witnesses to commit to having a closed briefing on these matters prior to markup. Besides the technology and the cost issues involved, putting weapons, either offensive or defensive, into space is a major policy decision. Congress should be a full and equal partner in that decision-making process.

Mr. Chairman, I thank you for calling this important hearing as we have a lot of ground to cover. I look forward to hearing from our distinguished witnesses. Thank you.

Mr. EVERETT. Thank you. We certainly will have that closed hearing.

I would like to add to that some discussion on Global Positioning System (GPS). And that is a problem we may be facing with GPS. This subcommittee saw the wisdom, and the full committee; I think our add last year was either \$30 or \$40 million to jump-start GPS-3, and we didn't get that money appropriated. And in light of Galileo coming online, I am not sure they will get it online as quickly as they think they will get it online, but nevertheless I think it is important that we again try to jump-start our GPS-3 to cover some of the problems that exist in the GPS current system.

Also, I would like, without objection, to add to the record a list of civilian uses of GPS that are important not only on the military side, but how important it is to the world we live in.

Mr. Secretary, you are on. Looking forward to your testimony.

[The information referred to can be found in the Appendix beginning on page 43.]

STATEMENT OF THE HON. PETER B. TEETS, UNDER SECRETARY OF THE AIR FORCE, ACCOMPANIED BY LT. GEN. LARRY DODGEN, USA, COMMANDER, U.S. ARMY SPACE AND MISSILE DEFENSE COMMAND; GEN. LANCE LORD, USAF, COMMANDER, SPACE AND MISSILE SYSTEMS COMMAND, AIR FORCE SPACE COMMAND; REAR ADM. RAND FISHER, USN, DIRECTOR, NAVAL SPACE TECHNOLOGY PROGRAMS, SPACE AND NAVAL WARFARE SYSTEMS COMMAND SPACE FIELD ACTIVITY; AND BRIG. GEN. JOHN THOMAS, USMC, DIRECTOR, COMMAND, CONTROL, COMMUNICATIONS, AND COMPUTERS (C4), AND CHIEF INFORMATION OFFICER (CIO), U.S. MARINE CORPS

Secretary TEETS. Mr. Chairman and distinguished members of the committee, thank you for the opportunity to appear before you today to discuss the President's budget request for fiscal year 2005 national security space programs.

I am particularly honored to be here in the presence of these distinguished military service leaders that are seated behind me. I have worked closely with them over the course of my tenure, and I believe that does indeed underscore the importance that we place on jointness in our national security space efforts. We have worked hard together, as a team, to define a way ahead that will provide a strong national security space program that meets the needs of all the military services and the Intelligence Community.

The President's budget request, along with our efforts to develop and maintain our team of space professionals, will enable us to sustain America's preeminence in space. In my multiple roles as the Department of Defense's Executive Agent for Space, Under Secretary of the Air Force, and the Director of the National Reconnaissance Office, I have set five priorities for our national security space efforts for 2004. They are:

One, achieving mission success in operations and acquisition;

Two, developing and maintaining a team of space professionals; Three, integrating space capabilities for national intelligence and warfighting;

Four, producing innovative solutions for the most challenging national security problems; and.

Five, ensuring freedom of action in space.

These priorities have shaped the fiscal year 2005 budget for our DOD space programs, and I see substantial improvement in capabilities in every mission area as we recapitalize our space assets in the years ahead.

The funding requested in the President's budget for fiscal year 2005 allows us to evolve capabilities in current constellations while planned investments in new systems will provide significant increases in performance, supporting the full range of intelligence and military operations to include the Global War on Terrorism.

We are aggressively pursuing two major initiatives that will deliver transformational capabilities to military and intelligence operations. First, the transformational communications architecture will provide vast improvements in data rates, expanded accesses, communications on the move, and threats-protocol-based connectivity. As a part of that architecture, TSAT will be a revolutionary change in satellite communications for the warfighter and for national intelligence users and is an enabler of horizontal integration allowing our fighting forces to have near-real-time intelligence, surveillance and reconnaissance at their fingertips.

TSAT will provide an unprecedented connectivity with Internet-like capability that extends the global information grid to deployed and mobile users worldwide and will deliver an order of magnitude increase in capacity. The program entered design phase this past month. As a result, we recently awarded two contracts to competing bidders for risk reduction and design development. We plan to launch the first TSAT in November, 2011.

Second, we are moving to more persistent surveillance with space-based radar and other innovative capabilities. Space-based radar will provide a start on persistent global situational awareness and target tracking capability as part of a horizontally integrated DOD-wide and national system of systems. Radar from space will provide day, night, all-weather, worldwide, multitheater surveillance on demand.

In fiscal year 2005, we plan to focus on consent definition, risk reduction, and systems engineering activities, all leading to a system requirements review in the third quarter of fiscal year 2005 and system design review as early as fiscal year 2006. These activities are part of the study which will culminate in a select award and an entered design phase in mid-fiscal year 2006.

As I look over our total national security space program, there are areas that require our vigilant attention, and we plan to work these areas hard in the coming months, placing emphasis on each of these areas in future budget deliberations.

For some of our constellations our replenishment strategy provides very little margin if there is a launch failure or a premature on-orbit failure or a significant program delay. While I am confident in the systems we are developing, true capability is the result of end-to-end performance in support of the user. Greater em-

phasis is needed on synchronization of fielding ground and air receivers and terminals to match on-orbit capabilities.

The aggressive DOD and Intelligence Community horizontal integration effort to better integrate and exploit ground, air and space remote sensing capabilities remains a priority for us. We have taken steps to strengthen the acquisition process for national security space programs, but there is still much to do. We are committed to building credible management reserves into our acquisition programs so that program managers will have resources available to solve problems in a timely way.

Mission success in all phases of space operations and acquisition continues to be my highest priority. We made steady progress on space programs during the past year, and the President's fiscal year 2005 budget request, along with our efforts to enhance the space profession, will enable us to continue that progress.

I very much appreciate the continued support the Congress and this committee have given to help deliver these vital capabilities. I look forward to working with you as we continue to develop, produce, launch, and operate critical space systems that deliver vital capabilities to this great Nation.

Mr. Chairman, this concludes my opening remarks. I look forward to your questions.

[The prepared statement of Secretary Teets can be found in the Appendix on page 36.]

Mr. EVERETT. Thank you, Mr. Secretary.

At this point, before we proceed with questions, I would ask everybody on the panel to join the Secretary at the table. I remind members that we are on the five-minute rule, but we will be here as long as there are questions to be asked.

Mr. Secretary, I will get things started by pointing out that our space programs have been plagued by schedule slips and cost increases. And I would like to know what has been done to ensure that the future programs remain on schedule and within expected costs.

Secretary TEETS. Yes, Mr. Chairman. We have had an aggressive activity ongoing to revamp and revitalize our space acquisition efforts. One of the early steps that came about as a result of the recommendations of the National Space Commission was to move our acquisition authority in the Air Force Space and Missile Center under the banner of Air Force Space Command. And in addition to that, as we looked over the total aggregate of space systems that we were in the process of acquiring, we put out a new National Security Space Acquisition Directive; it is a directive known as 03-01. It is an acquisition process really that is tailored after practices used and developed over the years by the National Reconnaissance Office under something called Directive 7.

What it does is, it tailors an acquisition process for our national security space programs that recognize the important differences in acquiring space systems from acquiring high production rate quantities of military equipment like, for example, airplanes or tanks or one thing or another. And so what it does is it causes us to be able to focus great attention on a program early on to make certain that the programs are structured properly, that they have the proper systems engineering trade studies done early on, that as we start

to meet these requirements and go through the acquisition process, we have enough solid engineering work behind them.

I think this acquisition process called 03-01, the national security space acquisition process, has been helpful to us in formulating both the space-based radar program and the TSAT program that we spoke of earlier.

Mr. EVERETT. And you placed all this responsibility in the capable hands of General Lord?

Secretary TEETS. General Lord is in charge of Air Force Space Command, indeed.

Mr. EVERETT. Congratulations, General. We will be looking for you to deliver on all of that.

General LORD. May I add a little bit to what the Secretary said?

I think a couple of things that we have done in the command under his leadership as Under Secretary have certainly helped to pay off—one, absolutely. The transition of the acquisition arm to us in Air Force Space Command has really helped. He and I had a joint relationship with the folks with the acquisition chain. What we have done in headquarters has helped. And so to make sure that our requirements process was stabilized, so that we don't keep changing requirements on the people that are building the hardware, we established what we call an urgent and compelling requirements review process where, if you want to change a requirement that would interrupt the baseline of a program, you need to have a pretty urgent and compelling reason to do that, so that we don't have those wild gyrations in program baseline which create the difficulty.

We have done a good job of that. With Mr. Teets' support we have been able to have that urgent compelling process help us.

If you take a look at how we are doing requirements in the space-based infrared program, the SBIRS, for example, we have a set of 10 evolving capabilities that will occur over the system. We have held fairly constant to that. I think it has paid off in terms of program stability.

So those are things we have been working within the community and with our colleagues and the other services to make sure that we absolutely can state affirmatively what we want requirements-wise, and be able to deliver on that and make sure we can stabilize the program.

Mr. EVERETT. I congratulate you on not adding to the baseline of the project. Apparently, you have taken note of the Comanche aircraft over the years and the baseline has been added and added and added.

I didn't start the clock, so I will yield my time.

Mr. REYES. I have just a couple of areas that I want to explore. The first one is, how well do we expect the selective moving target indicator (SMTI) function of SBR to perform? And I want you to discuss not only what we expect it to do, but what mission SBR will not be able to perform. And then I have a follow-up dealing with Iraq.

Secretary TEETS. Yes, sir. Now, just to make certain that we are very much on the same wavelength, when you say SBR, it is space-based radar. There is another program; there is a sister program

called (SBIRS) space-based infrared system high and SBIRS low, which is space-based infrared high and low.

But your question is referring to space-based radar?

Mr. REYES. Right.

Secretary TEETS. We see space-based radar as being a technology that is now mature enough for us to be able to field and deploy a system that can give us a start on persistent surveillance capability. This persistent surveillance will be in the form of both surface moving target indications—that is to say, from space you can detect moving targets and display them to a user in the field; and if, on demand, you want to take a synthetic aperture radar image of that target, you can.

So since radar has the unique capability of being able to see through clouds, to be able to image or do surface moving target indications at night, you can start now to see the effects that you can achieve by having some persistence in your surveillance activities. That is the big driving factor behind the desire to field a space-based radar capability.

It will tip and cue air assets that are already in place, also doing surface moving target indications, as well as synthetic aperture radar imaging. That is to say, Joint Surveillance Target Attack Radar System (JSTARS) aircraft sometimes have to operate in an environment where they can't see down into valleys or can't directly follow targets as they are moving. Space-based radar will be able to tip and cue. Similarly, it will receive tips and cues from JSTARS.

So we see this whole space-based radar system unfolding in a way that will give us real networking capability and real capability to service all warfighters in the field.

Mr. REYES. And I was in Iraq a couple of weekends ago. I was wondering, if space-based radar were in operation today, how much help would it provide our troops, for instance, in areas like Baghdad, Al-Falluja, those urban areas; and would it be able to give us the kind of information that will protect them from possible attacks?

Secretary TEETS. It would certainly assist.

Now, space-based radar is not at its best in an urban environment. However, when troops are on the move, as they certainly were during the initial days of this warfighting activity, and fast on the move up to Baghdad, space-based radar would be of invaluable assistance because it would give you clear indications of enemy troop movements and locations of enemy troops in advance of your advancing forces.

And as a matter of fact, during that initial phase of the war in Iraq, JSTARS and the capability that it gave through synthetic aperture imagery was able to look right through the sandstorms, identify positions of Iraqi tanks and mobile personnel carriers, and provided unquestionable assistance. Space-based radar would give that same kind of assistance on a broader area.

Mr. REYES. Thank you, Mr. Chairman.

Mr. SPRATT. Thank you all for your testimony.

I have been following for some time SBIRS high and SBIRS low in the nature of missile defense. It has been a very elusive technology. I think it was about five, six years ago I was in California,

and when the contractors for the SBIRS high program presented it to us, it looked shipshape. They were saying they might even begin launching ahead of schedule. That was five years ago.

I understand now that for SBIRS high the schedule for the first launch is sometime in 2007. And that is a slip of five years from the original schedule.

On the cost side, SBIRS high, according to the first selected acquisition report, was supposed to be \$3.6 billion for the system. It is up to \$7.85 billion. That is a 120 percent increase.

There are some outside critics who are looking at these programs, particularly the TSAT, and saying that your technology is not yet mature enough to be moving as fast as you are talking about deployment.

The General Accounting Office says that you don't have enough knowledge to reliably establish cost schedule and performance goals. And they say that the underlying technology is simply too immature to establish those, and you are pushing it far too fast.

How do you respond to those critics? How do we avoid the cost experience of performance experience and schedule experience we have with SBIRS high?

Secretary TEETS. Thank you, sir. Let me start by talking a little bit about the SBIRS high program that you referred to earlier. The facts and figures as you espoused them were, I think, essentially very accurate. It is not a program that has been executed with distinction up to this point in time.

In December of 2001, as a matter of fact within 2 weeks of the time I was sworn in, the Air Force notified the Under Secretary of Defense for Acquisition Technology and Logistics that a Nunn-McCurdy breach was in effect, or I will say a Nunn-McCurdy breach was predicted for the SBIRS high program at that point in time. Under Secretary Aldridge then notified Congress of a Nunn-McCurdy breach.

We went through a very significant, intensive review of where the SBIRS high program was and what the alternatives were for how to look at possibly terminating the program and picking up an alternative. We found the program was very ill structured. There were contract clauses in the contract that were not appropriate. Too much responsibility, very frankly, had been handed over to the contractor, and the government was not providing necessary oversight to the program.

We looked at some alternatives that involved using some capabilities that had been developed in the National Reconnaissance Office. We compared that to the possibility of restructuring the SBIRS high program. We came to a conclusion in the spring of 2002, then, that the SBIRS high program would be best served by being restructured with additional resources added to it. And you kind of quoted what those additional resources were that eventually got added to it. Secretary Aldridge recertified the program as being the restructured alternative being superior to trying to start over to provide this capability.

Now, I want to just pause and say that the capability that SBIRS high provides is vitally important. It is the follow-on system to our DSP, or Defense Support Program, the SBIRS high program that will give us continuing early warning of strategic missile attack.

And these are systems that must be available 24 hours a day, 7 days a week, all the time, to give us early knowledge of strategic missile launch.

Mr. SPRATT. If I could interrupt you. That is the point. This is one of the most, if not the most important, satellite project we are launching—critically important and also pretty complex as evidenced by the schedule slippage and the performance problems that you have had to go back and rearrange.

Given that, how can we be assured that you aren't moving too fast here and committing the same mistakes that you committed with SBIRS high?

Secretary TEETS. When we restructured the program, we added a significant amount of test content. We reviewed—with independent people—we reviewed a relook at a cost estimate, an independent cost estimate. We looked at the content of the test program, essentially restructured the program in a very meaningful way.

Now, I want to hasten to tell you that we have made a lot of progress in the last two years on the SBIRS high program, but we are facing some adversity today.

Mr. SPRATT. Are you going to be able to launch by 2007?

Secretary TEETS. Yes, sir, we will be able to launch our first two highly elliptical orbit sensors before that. But I do want to say we are still facing some adversity.

The problem that we have encountered since we have restructured the program is that these two highly elliptical orbit sensors ride on a host satellite that has very tight electromagnetic interference specifications imposed upon it. And we have faced some adversity in the fact that this sensor, which has a scanning mode, does emanate some electromagnetic interference that is harmful to the host satellite. As a result, we have had to do some redesign activity. It has slowed us down some, but we are making excellent progress.

I reviewed the SBIRS high program quarterly with the Presidents of Northrop Grumman and Lockheed Martin. I also have monthly reviews with the Commander of the Space and Missile Center, General Brian Arnolds. As a matter of fact, Friday of this week we will have a President's review of this program.

We have focused enormous attention on this program. While it is still technologically challenging, I am confident that we are on a solid course and that we will be able to deliver a SBIRS program that can indeed, pick up when DSP starts to fade.

Mr. EVERETT. The gentleman's time has expired. We will come back.

Mr. Turner.

Mr. TURNER. Thank you, Mr. Chairman.

And looking at your testimony concerning partnership with NASA, I am particularly interested in the effort of the President's Commission on implementation of the United States space exploration policy. They have scheduled their second hearing, the commission has, at Wright-Patterson Air Force Base in my district. And certainly with Wright-Patterson Air Force Base as the leading edge in representation in technology advancing sciences, the coordination of the Air Force and other research labs in NASA is very interesting to me.

You reflect in your testimony Defense Advanced Research Projects Agency (DARPA), the Air Force research labs, the Navy research labs, and NASA are working in partnership with space exploration as to how this technology might be helpful as you look to other systems. Could you please elaborate on that? And also could you reference the Partnership Council and its role in working with the President's Council.

Secretary TEETS. Yes. Then I will ask General Lord, who also serves on this same Partnership Council, to perhaps add some thoughts of his own if he would.

Several years ago we formed a Partnership Council that was made up of myself; General Lord; Sean O'Keefe, NASA Administrator; Ron Sega, who is in the Department of Defense; and Admiral Ellis, Commander of United States Strategic Command. This Partnership Council meets quarterly, and we talk about how—in the national security space world how we can cooperate between NASA, Air Force, Navy, Army STRATCOM, military services, and frankly, the Intelligence Community.

I am on this Partnership Council. One of the reasons I am on it is because I am Director of the National Reconnaissance Office. So we bring that same kind of a capability and focus to this Partnership Council.

What we have focused our efforts on is mutual technology development that we can all benefit from. NASA has some very unique challenges in front of it that are associated with manned space flight. Those of us in the military and Intelligence Community, national security space, really don't have manned space flight requirements per se. So there are some differences, of course, but where it comes together is in the technology development arena. We share the technology that is going on in DOD and the Intelligence Community, along with what is going on in NASA, and partner that way.

General Lord, I ask you for a comment.

General LORD. Thank you for the question. We have been meeting periodically since 1997 with NASA on a quarterly basis in Air Force Space Command. My predecessors have met with the previous Administrator, prior to O'Keefe and just as Mr. Teets said, to talk about mutual areas.

The previous administration said that in the rocket business NASA would work renewable technologies, Air Force would work expendable technologies as a principal interest; but we do have a healthy cross-interest in each other's capability. So we have been working those very hard. As a matter of fact, I testified a couple of times to our partnership and development of those programs.

Major General Nielsen, the commander of the Air Force Research Lab, myself, General Martin Attermand there at Wright-Patterson, we meet quarterly as well to talk about an enterprise approach to this and working hard and comparing working technologies.

All the Air Force astronauts in Houston, 125, are assigned to Air Force Space Command. So we have an interest in bringing back Air Force astronauts to bring that rich experience of operating in the medium of space back to the command. Colonel Susan Helms, the Director of Space Control, spent six months in the International Space Station, so she brought back to our command a wealth of in-

formation—so not only at the technology level, but also at the person-to-person level, experience operating in the medium of space, and healthy interaction.

We were involved in the return to flight criteria to refly the Shuttle. We have been actively involved in helping NASA and helping the Administrator through that. Also our future breakthroughs as we talk about what we need to do in lower cost access to space, we are both interested in how we can do that. And Mr. Teets and the Administrator have asked us to continue to work that very hard.

We have a healthy interest in continuing to work together.

Mr. TURNER. I appreciate that.

In looking at the President's Commission as they go forward, I know that many of the decisions or recommendations might have impact on things that you are undertaking. So it is certainly encouraging that you are working in concert so that all those interests can be reflected. Thank you.

Mr. EVERETT. Mr. Franks.

Mr. FRANKS. Mr. Secretary, thank you for coming, all of you gentlemen. We appreciate what I call the "guardians of freedom," you not only guard freedom for the United States but really, in a sense, the whole of humanity. We are grateful to you.

Having said that, I know that this SBIRS program is probably one of our first-line defenses as far as maintaining contact with what is happening on the ground as far as early warning, and I am wondering what its capacity is to coordinate a response with, you know, a future strategic missile defense with any sort of response to what we might see on the ground.

Secretary TEETS. Yes, sir.

The SBIRS high program, as a follow-on to the Defense Support Program, will provide very, very strong capability to tip off or cue the Missile Defense Agency with literal state vectors that are coming up from the launch of a strategic missile. So it is very definitely in the cuing mode. And it is SBIRS high that will provide significant improved capability over what can be done with today's system called DSP. We will give warning earlier and we will give a much more complete map of the trajectory that the missile in question is taking.

Mr. FRANKS. As I understand, Mr. Secretary, that would be just a road map in the sky; it wouldn't be an actual coordinating device. It would coordinate the missile from the ground to the target; is that correct?

Secretary TEETS. That is correct. It would send information to the Missile Defense Agency of what the target is doing and where the target is heading. The Missile Defense Agency would then use that information in order to take it out.

Mr. FRANKS. I don't want to ask any question that might get into a classified area, but I am sure that as you build these systems, as you plan for them, one of the first considerations is where a likely attack might occur. It has been said that we are not always so worried about a country that has several nuclear warheads; we are worried about one idiot that has one.

Are you able to enlighten us all as to what you think might be—given just the difficulties of such insight—what might be the first area of concern, the first consideration as far as early capability?

Secretary TEETS. Yes, sir, I can. Recognize now that both the Defense Support Program, DSP, and SBIRS high are passive sensors that are simply monitoring the launch of ballistic missiles, and that monitoring capability is essentially on a global basis. If you look at the satellites that are in geostationary orbit, coupled with those that are in the high elliptical orbit, you get essentially global coverage of missile alert.

Now, the Missile Defense Agency, led by Lieutenant General Ron Kadish, is in the process now of putting together an initial defense capability that is scheduled to come on line this calendar year with a first kind of a capability. I think the details of that are somewhat classified. And I think, frankly, that General Kadish would be the proper person to give you the details behind that.

Mr. FRANKS. So if I heard you right, Mr. Secretary, you are saying that the system is so much global in nature that it is not necessary for you to look for a specific area that you have.

Secretary TEETS. We will have global coverage knowledge of a launch against us. It will take a considerable length of time before the Missile Defense Agency will be in a position to take out a target emanating from virtually any part of the Earth.

Mr. FRANKS. Any missile capable of reaching a high enough trajectory to reach the United States in most areas would give off a distinctive enough signature that there would be no doubt of its nature; is that correct?

Secretary TEETS. That is correct. Of course, the more intercontinental it is, the more time that you have to deal with the threat.

Mr. FRANKS. I want to repeat my earlier remarks and how grateful we are to all of you. Thank you.

Mr. EVERETT. Mrs. Tauscher.

Ms. TAUSCHER. Thank you, Mr. Chairman.

Thank you for being here, gentlemen.

Under Secretary Teets, I agree with many of the objectives that you laid out in your testimony, especially assured launch and effective space programs that will aid our warfighters. But I am a little concerned about your discussion of a defensive counterspace.

In your testimony, you state that we will pursue a mix of capabilities to limit any adversary's ability to deny us free access to space and deny an adversary's use of space for offense possible purposes. That is fighting words.

The Air Force transformation plan has made public this month a description of a number of near, mid, and long-term weapons or offensive platforms such as the air-launched antisatellite missile and the ground-based laser.

In as much detail as you can go into here, can you bring us up to date on what kind of threat or enemy we are posturing against and why do you believe this should be such a priority? What is our policy on the so-called "weaponization of space"? Are you not concerned that the two weapons I mentioned would threaten both our allies and our own space assets? Since our military is growing more and more dependent on space, do we not have the most interest in reducing the prospect of any arms race in space?

Secretary TEETS. I believe it is safe to say that we have already seen the opening of hostile activities relative to space capabilities. In Iraq, as you undoubtedly know, the Iraqis tried to deny us the use of our global positioning satellite navigation system capability to deliver precision guided munitions. And fortunately, in this case, when we were able to overcome their attempts to deny us the capability and we maintained our capability to deliver precision guided munitions.

But I think it is also clear that our adversaries around the world have taken note of the fact that we do derive a great advantage from the use of space assets. So it is natural for us at this point in time to recognize that we need to be working on and studying technologies and systems and capabilities that will allow us to defend ourselves against potential threats and at the same time allow us, if our forces are being targeted by an enemy's space capabilities, we need to have the capability to deny them the use of their space assets. So it is in that context that we are looking at a wide variety—a wide range of potential capabilities and systems to provide, first of all, knowledge about what is up there in space.

There are some 10,000 objects in space. While we catalogue those in terms of orbital characteristics, we know precious little about many of them. We would like to know more. So we want a better situational awareness picture. We also then want to start to focus strong attention on defensive counterspace. And ultimately we need to think about how we would deny an adversary their use of being able to target our troops. And that is what we call "offensive counterspace."

Now, there are a lot of different ideas that are being studied, and all of them would be consistent with our current space policy applications. Some of them, as you say, offer downside risk in the sense that they could create debris in orbit. As a result our primary focus, and what we look at first is how could we deny them the use on a temporary basis without causing permanent damage. But for example, if a foreign commercial imagery satellite were being used to target our troops, what could we do to eliminate that capability but have it be a reversible effect, that is to say, temporarily deny the use. That is the way we are heading.

And it is true that in our Air Force Research Laboratory, and other laboratories, people familiar with the technology have different ideas and put forth different concepts. And I guess I would ask General Lord to comment as well because General Lord is Commander of Air Force Space Command, in fact, has the Air Force space control mission assigned to him.

General LORD. Yes, ma'am. I appreciate the question.

I think Mr. Teets is quite right. Three areas of this mission of what we call space control: the situation awareness, understanding what is in the environment of space, which we have to do more of and work well on, so that we can be able to discriminate in the environment of space is this somebody trying to do something against us or is this an atmospheric effect, a solar flare or something that we need to be able to discriminate. So we need an understanding of the environment of space and who is up there and operating.

And the second piece then, taking some kind of defensive measure to make sure that not only do we work the satellite space of

this, but the ground links and make sure we have all the vulnerabilities covered.

Then the last piece is the offensive counterspace piece. Those are kind of in our priority order, to do the things we need to do to deny somebody trying to use that to our advantage in reversible kinds of ways.

We will introduce some of our first counter-com capability this year in 2004 and then later on, in 2007 and 2008, the surveillance and reconnaissance capability that is a reversible kind of effect that generates an effect on an opponent system for a temporary basis and then resets after the threat is over with. And that is something that we want to take a look at.

I think the whole mission area really speaks to the fact that, just as you mentioned, it is highly dependent upon—both militarily and economically—for us to maintain that advantage.

I think the real key to doing this mission successfully is working hard on the space situation awareness piece and taking those in that priority sequence and learning as much as we can about the environment, putting that all together and taking the right kind of steps to be defensive in nature. I think that is something that we can all participate in, both the commercial military and civil systems. It is important for everybody to work that together.

Mr. EVERETT. Congresswoman Wilson, before you start, at the request of the ranking member, we are going to have a closed hearing on the various subject that you want to talk about.

Ms. TAUSCHER. Good.

Mr. Chairman, if I would just say, I really appreciate your comments. I thought they were very fulsome comments. I know we have some barriers to discuss for classified reasons, but I really appreciate your effort to be as fulsome as you could be and talk about the benign opportunities. I appreciate that you have that right in your forefront. Thank you.

Mrs. WILSON. Thank you, Mr. Chairman. I wanted to thank you all for coming, but also to apologize for coming late. You all know how things get double- and triple-scheduled up here. But I appreciate the written testimony, which is very helpful to me.

And what I wanted to ask you, and I am not sure who is the best person to answer this, but it has to do with new acquisition policies and whether we are at the point where—I have seen the discussions about spiraling acquisition and spinning things on and then going to 2.0 and 3.0 versions of particular systems.

I guess I would like to comment on the laws and the procedures relating to this process and where we are, where we need to be yet with acquisition. Particularly, what are your thoughts on how we need to modify acquisition policy to make this work, to make sure that we get the assurance that you are on schedule and you are on budget and it is doing what it is supposed to do, but also that we get things into the field or up into space and available to the warfighter in a rapid way?

It is something of an open question.

Secretary TEETS. I would be happy to take a first cut at it.

I think that one of the first things we recognized here over two years ago is that many of our space programs were—from an acquisition point of view—in serious trouble and required additional re-

sources to be able to restructure the programs and get them back on track. And we tried to take a hard look at, is there an acquisition process improvement that is required? And we came to the conclusion that, yes, there was.

As a result that is when we went to work pretty hard on the subject of this National Security Space Acquisition Directive, labeled 03-01. And this directive tries to take into account the unique characteristics and difficulties associated with acquiring space systems. The fact that you are dealing now with a case of one strike and you are out—if you are on the launch pad and you have a vehicle that is about to try to deliver a satellite into orbit and you have a failure there, it is all over; you do not get a second attempt at it.

And so one of the things that we tried to do in building this new acquisition policy was to give recognition to the fact that mission success is the primary focus that you want to structure the program around, and that you want to have a strong systems engineering effort early on that creates a very robust test program to fully test all of these systems before they are put into service.

I think we have made good headway in that. And I don't want to say that our acquisition policy document is perfect. As a matter of fact, I think we have learned some lessons since first implementing it.

I look forward this year to being able to make some modifications to our acquisition policy 03-01 which will further tune it and tailor it to the specific needs of these space systems that we are developing.

The other thing that we are trying hard to work on—but it is not easy to do; frankly, it is going to take some time to get it done. But I was aghast, to be candid with you, when I first came into this job and found that we had program managers trying to manage these very difficult, technologically complex programs with no program management reserve. It cannot be done. A program like SBIRS high, a program like future imaging architecture programs that are pushing the leading edge of technology cannot be successfully executed without having the program manager having discretionary resources to be able to apply the problems that inevitably will occur.

So we have instituted as part of this acquisition policy that I mentioned, or acquisition procedure directive that we have implemented, a requirement for independent cost analysis, a requirement at every Defense Space Acquisition Board meeting that we have, my first question to the program director is, What is the state of your program management reserve? How much discretionary resource do have you at your disposal? So when a problem arises in the contractor's test program or you finding out that you need a redesign in this or you have a bad part, a playing in the system, what kind of discretionary resource do you have to apply to this problem? And we have some guidelines, depending on how hard we are pushing technology, as to how much that reserve should be.

So we have tried very hard to implement an improved technique. I will say, it is a daunting challenge. The fact that we are here today talking to you about an 2005 budget while we are actually

executing 2004, at the same time, we are starting to worry about preparing the 2006 budget, makes it a real tough challenge. But I think we are making headway.

Mr. EVERETT. Mr. Thornberry.

Mr. THORNBERRY. Thank you, Mr. Chairman. I also apologize for being late. I have been chairing a Homeland Security subcommittee meeting during this time.

But really, Ms. Wilson raised the point that I was most interested in. Because we are so dependent and will be ever more so in space, it gives us great opportunities and yet just about every space program is behind and over budget and handicapping in some ways our ability to be as successful as we want.

Let me follow up with this: Do you think, Mr. Secretary, that we do not have the expertise maybe that we should have about space and some of the unique challenges it presents? Is viewing space primarily as a means of accomplishing other things, does that make it more difficult for us to be successful in executing these programs?

And, part two, some people may argue that until space has its own service that it will not have the career path or the emphasis that is needed in order to make sure that we are successful not just at building stuff, but in having a full-scope space policy. Do you think there is any legitimacy to those criticisms?

Secretary TEETS. Well, certainly there is legitimacy. Those are very real factors that you point out. I am a strong believer that we do have the expertise and the knowledge to be able to successfully execute space programs.

There is a very daunting challenge, and as you look ahead to the development of a high-technology space program, generally speaking, you find a wide range of possibilities for cost outcomes. If you look at the program optimistically, you will get a number that is quite significantly different than if you look at a program pessimistically. And, since we are always trying to maximize the amount of capability that we have, we do ourselves a disservice to become too pessimistic. Similarly, if we get too optimistic, we are going to run into cost and scheduling problems, so it is a tough challenge to pick the right road of program and space resources systems.

Now, a person who has been involved in that for 15 years at the NRO is Admiral Fisher, and, if I may, I would like to ask him if he would like to make a comment or two on this subject of do we have the capability to acquire systems on cost and on schedule. And I know that General Lord really has strong feelings about developing the professional cadre and talent to do it, so——

Mr. THORNBERRY. And, if you know of other things we need to do in the law concerning acquisition and other things, include that in your answer.

Admiral FISHER. Yes. Thank you, Mr. Teets, and thank you, gentlemen.

In the 15 years that I have been working in interim acquisition, I have seen both programs succeed and those that have had problems, and when I look at the difference, the programs that succeed—and these are things we talked about a little bit today—are those that understand the requirements and have some requirements-bounding process. There are those that have been well engi-

neered from a systems perspective, and there are those where there have been excellent risk identification and risk management; and by that I mean if you identify a technology that is problematic, then where are the opportunities in time and in technology space to get off that and make a decision to preserve some amount of performance and schedule and cost?

So it is those kinds of decision processes that I think characterize successful programs. And Mr. Teets' comments about 03, 01, and Directive seven and his personal efforts in terms of these acquisition boards have reinforced that across the national security space domain, so what we are seeing is better rigor in terms of bounding the requirements, better rigor in terms of the engineering and risk management as well as the cost.

I would add one other thing that I would note. In the 15 years that I have been involved in the space community, I think we are seeing a deterioration on the industrial base at the vendor level in terms of the numbers and diversity of folks that build our parts. And so that becomes problematic when you are building complex spacecraft. If you find out about a parts issue late in the bill, you have a problem, and that is something that we are also addressing in the community as well.

Mr. EVERETT. All right. I am going to hold the rest of my questions until all members have had a chance to ask any additional questions that they want to.

Mr. Reyes.

Mr. REYES. Thank you, Mr. Chairman.

Since we have deployed the first Stryker group in Iraq—and you answered my previous questions, in terms of the kind of information that would be available either real-time or near real-time—my question is, how much information do we expect space-based radar to generate, and how will this information be sent to potential users; and, in fact, what capability do we have to disseminate the information in a useful format and yet in a timely manner to be able to be used by, for instance, our Stryker battalions in that kind of an environment?

Secretary TEETS. Sir, the answer to that question is that it is very much under study. We have some that are competing for the contract activity, and what we have asked them to do in their proposals is to address that very question: What are the alternatives; how would we get the information down; how would we best post it to the information grid; how would we enable people in the Stryker brigades to pull information off the grid, and so forth? So what I am trying to suggest to you is this is still a work in progress, but conceptually there is an enormously important information of military value that we are determined to assure our people in the field get.

It could be with, for example, a space-based radar system operating in conjunction with this transformational communication system; that is, massive data that is being collected by the space-based radar would get pumped down by Lasercom, enormously high bandwidth transmission, down into a ground station in Continental United States (CONUS), let's say, and massaged, worked on, with a lot of computational capability—and I am talking about, now, seconds of turnaround time—but then sent back up to TSAT

communication satellite, which would receive that information again in very, very high data rates, but then be able to transmit right down to Iraq through a sandstorm or a dust storm or a rain-storm, with S-band kind of capability to a soldier or a Jeep. He could pull the information he needs from it.

Now, that is one concept. Another concept that we are dealing with—and, frankly, General Dodgen and the Army people have been real strong in their statements that we would like to have some direct downlink into the theatre. We want some on-board processing on-board this space-based radar, and we want to do some synthetic radar aperture imaging and have that image direct downlinked from the satellite to the Jeep.

We are looking at all of those kinds of concepts, and I might just pause and ask General Dodgen if he would like to comment.

General DODGEN. Thank you, Congressman. You probably understand, more than anybody, understand exactly the needs of the Army and the future in this regard and our whole tactic, not only for the Stryker brigade but for the unit of action that is coming after it, depend on having this type of persistent intelligence at the fingertip of the soldiers and actually showing up in the vehicles. That is why we are participating so strongly in the requirements process, to ensure that these things marry up.

I think the wideband communications and the space-based radar capabilities are vital to the way we are going to fight in the future.

Mr. REYES. And I assume a critical part of this is to make sure there aren't any delays in TSAT, with such a critical component of our ability to use space-based radar information.

General DODGEN. Sure.

Mr. REYES. Thank you, Mr. Chairman.

Mr. EVERETT. Mr. Spratt.

Mr. SPRATT. Have you decided yet whether this should be a Low-earth orbit (LEO) or a Medium-earth orbit (MEO)?

Secretary TEETS. That is still under trade studies right now. We have asked our contractors to give us concepts. What we are trying to say is that we want to introduce persistent surveillance.

Now, there are a couple ways you can do that. The radar job is easier from lower earth orbit than it is from a medium earth orbit, but if you go into a lower earth orbit you will need more satellites; on the other hand, if you go into a higher orbit, while it makes it a much more difficult job to collect the information, you need fewer satellites once you do it, so we are asking our contractors to give us state of the art technology, and this is still a dynamic situation.

We are casting a broad net here. We want the best possible persistent surveillance start we can get, and space-based radar is the way to do it, because we know it is all-weather, day-night kind of system, where you can actually achieve persistent collection. And which orbits and how many satellites is under study now.

Mr. SPRATT. Sir, if you went to a LEO, would you be vulnerable? Can anti-satellites (ASAT) take out a direct launch from a country that had a three-stage missile?

Secretary TEETS. Yes, lower earth orbit is certainly higher than it would be in any higher energy orbit. But I think one of the things—that perhaps we should defer to our closed session—but that I will just say is that we have done a very serious vulner-

ability study associated with all of our national security space programs, and it is not just the airborne assets or the space-borne assets. It also involves ground station. It involves links that are particularly vulnerable, and we are trying to shore up our vulnerabilities in a very real case because we do see, frankly, a threat starting to evolve.

Mr. SPRATT. I understand the constellation you are looking at would have 9 satellites, as opposed to 21, in a lower earth orbit configuration, and the cost of that is \$34 billion in 2004 constant dollars?

Secretary TEETS. Sir, it is true that the reference constellation is a 9-ball LEO constellation and the 34 billion that you have is a projected cost estimate out through—I believe it is 2026. And so we are talking about a real long life cycle of this constellation with replenishment, et cetera, for the next 22 years.

Mr. SPRATT. So that is acquiring, maintaining?

Secretary TEETS. Yeah.

Mr. SPRATT. If you go to 21, does the cost go up on a linear basis or is there some savings that you enlarge the system?

Secretary TEETS. As you enlarge the system, there clearly are savings, but I will just say as it relates to the life cycle cost, I do think there is a lot of variation yet in the system architecture.

As I say, we have not locked onto a 9-ball system or a 21-ball system or LEO orbits or MEO orbits. We are merely exploring a wide range of possibilities here, but for purposes of laying out the 5-year defense plan we did assume a 9-ball LEO constellation, it is true.

Mr. SPRATT. Well, it is a pretty fundamental decision which affects the cost and how many are launched, whether you go LEO or MEO?

Secretary TEETS. Well, that is what we are going to ascertain here over the course of the next 6 months.

Mr. SPRATT. I can only imagine that this single satellite must require huge quantities of copious data.

Secretary TEETS. Yes, sir.

Mr. SPRATT. And you want to do sort of on-station processing, which I can readily appreciate why, and that is a tall order; and this is a huge software challenge among other things?

Secretary TEETS. It is not so much a software challenge as it is a communication system challenge in my estimation.

It is terribly important that we bring on-line this space-based radar system in the same time window that we are bringing on-line this transformational communication architecture.

Mr. SPRATT. So TSAT is integrally linked with this, and if it does not achieve its own capacity specs, then you got a problem with this system, too?

Secretary TEETS. Yes, some problem.

I would say this: that when I said transformational column architecture, TSAT is one very important part of the transformational column architecture, but the beauty of our column architecture is that it is a network system of systems that can degrade slowly.

If TSAT comes on-line late, we are not going to be without communication capability. We have other nodes and other capabilities that can continue to supply us if we are a little bit late with TSAT,

so there is no one communication system that is going to take down our national security space communications capability.

Mr. SPRATT. But for full capacity you need TSAT.

Secretary TEETS. Yes, and TSAT is a vitally important link. I am just trying to make the point that it does not eliminate our capability if it is late.

Mr. SPRATT. A minute ago, you mentioned the downlink, ability to connect even with the tactical commander in the field.

Secretary TEETS. Yes, sir.

Mr. SPRATT. That was also a characteristic that was held out for the SBIRS load, battlefield characterization, which would have included some accessibility, some link between the satellite and the commander in the field. But it was never attained, and I think it has been dropped with respect to DSP. It may have been a desirable feature for the new iteration of SBIRS load, but we have tried it for a long time now. We have not attained it. We have not proven that it can actually be done at that level of tactical connectivity.

How confident are you this can be achieved in this system?

Secretary TEETS. I think that is one of the key trades that needs to be done, and we are asking our contractors to again give us trade space there.

Do we want to do centralized processing at a ground station using transformational communications links, or do we want to do on-board processing, and how much on-board processing do we want to do?

Again, I think there are trades that are available to us on both space-based radar and transformational column that can lead us to an optimal answer.

Mr. EVERETT. Do you want to hold the rest of those questions for the next round?

Mr. SPRATT. Yes.

Ms. TAUSCHER. Thank you.

I find this discussion fascinating. Can you just talk a little bit about the opportunity we have or are exercising for partnerships in some of our other alliances, for example, the NATO Alliance with the British and others who are obviously very close to us, but, at the same time, we have competitive satellite private sector concerns. And the issues of tech transfer, export controls, these are all inextricably intertwined, and these are tough policy decisions that we have to make in different venues, but they all come haltingly to the forefront when we are trying to figure out how to protect ourselves and maintain a proprietary system that has redundancies but still is operable with our allies, where we have a NATO exercise and many people that we have to communicate with.

Can you kind of talk about what you think about that?

Secretary TEETS. Yes, ma'am. Be pleased to.

First off, let me say that with regard to our transformational communication architecture, we are designing it and we are thinking about it across our national security space domain, and that national security space domain includes, of course, all the military services. It includes the Intelligence Community of the United States. It also has some participation with NASA. We do not have

foreign involvement in designing this architecture. This is a U.S.-only architecture at its core.

By the very nature of what I am saying now, I think you will realize that one of the challenges that we have is going to be multi-level security. There will be users on this system which will be able to use the transformational column system and pull information off the information grid that is based on their level of security clearance that is involved here, and, so that is pretty much the way we have handled it.

We are saying that this system is going to use encrypted data, and end points will unencrypt, and we will use, then, just as we do today, means to share information with allies or not.

It will be at our discretion at the end point, as to whether or not a certain person has a clearance to receive this kind of information.

Ms. TAUSCHER. So a key system at the operational level could or could not include an ally in a joint operation; I mean, I think what you have done is taken down all the walls from jointness, but what you are saying is it will be the ultimate barrier of entry at some level, decided by us, as to whether we share keys and to what level the information is filtered down to a place where it either is of significant nature, classified, declassified, or basically nobody cares?

Secretary TEETS. Yes, ma'am. And it turns out today we are fortunate to have the transformational column architecture sitting here. And, Admiral Fisher, how about addressing this, just to make a comment or two?

Admiral FISHER. Well, you have described it well, sir.

I would offer that part of our team includes Mr. Stenbit in his role as Assistant Secretary of Defense for Networks and Information Integration (ASDNII).

Also Defense Satellite Communications System (DSCS), which is heavily involved in both those organizations, I think perform exactly what you are indicating, which is a liaison to the allies.

I have briefed some of our closer allies to the emergence of this so they understand where we are going, but I actually think the attributes which the architecture has, which are to be able to carry multilevels of security in the same encrypted stream and the Internet protocol, are going to offer far better opportunities to interoperate at the coalition level than we have today. So I think it gives us that kind of policy level control, if you will, but also gives us the ability to share in a much easier way if we decide we want to do that.

Ms. TAUSCHER. Yes. This is vitally important because the widening that we have, even with our own NATO allies, where we are, you know, as large as the next 20 of our competitors in defense appropriations and authorization, means that at some level, if we ever go beyond joint and the United States would actually have a coalition of the capability where we would really have to measure the success by having significant operations, the gap is widening every day, and communication is going to be what will make or break us. And if we can save ourselves the opportunity of having the ability to have the keys work when we want them to, but at the same time filter information down so that at least we have operational abilities, then I think we are going to be able to have

a coalition of the capable that actually works for us. That is great news.

Mr. EVERETT. Mrs. Wilson.

Mrs. WILSON. Thank you, Mr. Chairman.

General Lord, I want to ask you, have you set up a task force to look at lessons learned from Afghanistan and Iraq on how to connect space to the warfighter, and could you give us what the status of that is and what some of your initial conclusions are?

General LORD. Yes, ma'am. We followed up Operation Enduring Freedom (OEF) very aggressively with what happened in space. As a matter of fact, I have had a chance to visit with our folks in Afghanistan. Also been into Saudi Arabia and into United Arab Emirates, both for OEF and also Operation Iraqi Freedom (OIF) and very aggressively followed that.

As a matter of fact, during the height of OIF, we had almost 1,000—1,200 Air Force base command employed, almost 500 into the theatre, between what was going on with our air operation center and people in the field, as well as with our Army, Navy, and Marine colleagues; having people just like that involved in the aspects.

We followed it up very closely. The things that we really were most proud of was the service we provided in the global positioning system with enhanced capability to have the constellation, the most accurate information on-board those navigational satellites when they came in view of the theatre, the missile warning piece that we were able to provide information, the communications, and support for all those activities.

People in the air operation center are working for them, Lieutenant General Buzz Moseley coordinating.

We synchronized our operations from back at Vandenberg up in real-time, working in support of those operations, and I am very proud of those. So we followed all of those up and they are part of what we learned independently in the Air Force, and we learned a lot from Operation Enduring Freedom just to help us in Operation Iraqi Freedom. So we built those relationships and we pushed people forward to every exercise, visited every theatre, and we have people involved in the day-to-day planning and activities and all of the combatant commands.

Mrs. WILSON. What were the one or two things that you saw that you needed to do better that you want to fix?

General LORD. We need to get more people involved from my end, personnel-wise, and get more people familiar with being inside that operations tempo (OPTEMPO) of a combat and commander working a particular problem, because the day-to-day, we do activities as our other service colleagues do, to support worldwide capabilities, as well as being able to tailor capabilities for a specific theater or operation, like we do with General Franks and like we are doing right now for General Abizaid.

The more people we have involved in that, the better off it is for us and how long it will be. That is healthy appreciation for the contribution to actual achievement of combat effects.

Mrs. WILSON. If there is a report on that or your "hot wash," or whatever you do, I would appreciate seeing that, because I want to see where you are going and what you have learned.

General LORD. Right. I know Admiral Giambastiani from Joint Forces Command is involved in the joint lessons learned process, and I believe that is all tied up and ready to be presented through the Secretary of Defense to Congress.

Mrs. WILSON. Thank you, Mr. Chairman.

Mr. EVERETT. It sounds like a radio needs to be reset. Two votes.

Mr. Thornberry, do you have a quick question?

Mr. THORNBERRY. Yes. Thank you, Mr. Chairman.

General Lord, Admiral Gibrowski in the Office of Force Transformation has been doing some work on small satellites, put up fast and cheap.

Tell me what your opinion of that is, where that program is; and what I am particularly interested in, if you think it has merit, is the Air Force going to take it up?

General LORD. Well, the one that you are referring to that the folks in Office of the Secretary of Defense (OSD) have led with the partnership at DARPA and the Air Force research lab, we want to get involved and have been involved in the early planning.

There is going to be, I think, some really important breakthroughs here and a little smaller technology, some things we will be able to do. It is supposed to be launched in May, I believe, with a new vendor and a launch business—Mr. Eli Munske, who is an entrepreneur who has developed a pretty interesting rocket. I visited his factory in Los Angeles and he has got a unique concept.

So, lower-cost access, plus a smaller satellite capability; yes, sir, we are interested and want to follow that up aggressively. Mr. Teets in his leadership role has pushed us really hard to make sure we follow that closely and get involved. We have been in contact with Admiral Ellis at STRATCOM. He is interested.

Yes, sir. We are pushing hard on that.

Mr. THORNBERRY. I just do not want to get lost in the problems that we were talking about a little bit earlier with Secretary Teets.

Let me ask one final brief question. We do not have time to get into the whole career path that we were alluding to before, but on a scale of 1 to 10, where are we in terms of having career paths in the military that focus on space and develop the kind of expertise that we have to have going forward?

General LORD. I would say right now 8.75, to be a 10 by a year from now.

I am really—you and I know, we have talked about this before, and I have spent the last two years working this under the guidance of Mr. Teets, and the space contract development is something we have taken very seriously. And I am really pleased with how much we have seen improvement and I am pleased with—very quickly, what we have identified in the Air Force, along with our Army Navy and Marine Force colleagues, is the cadre of people we want to characterize in the space business, but the first thing I want to do is measure their skills and abilities so I could have a way to measure it against the path that we want to lay out.

We have 1,600 of those folks identified by their skills and abilities. By the 1st of July we should have 7,000 done. Hopefully by the end of the year, I will have all 10,000 in the Air Force, and then to the Army, Navy, and Marine Corps, and then from that we

will be able to measure our success in measuring skills and abilities.

We have it linked with our other forces so that everything that you and I talked about over the last 3 or 4 years we are instituting, following up on the recommendations of the Space Commission. And, as you heard Mr. Teets say, his number one priority is mission insurance, I would say mission insurance every day, people always, in terms of cadre. That is kind of how we are approaching it.

Mr. THORNBERRY. Thank you.

Mr. EVERETT. I intend to end the hearing.

I talked to Mr. Spratt and he also has additional questions, and my additional questions I will submit for the record.

[The information referred to can be found in the Appendix beginning on page 43.]

General Lord, I would ask for you to make sure that you tell us how you propose to improve space education, not only for those directly involved in it but also for those in other military branches of the service who might be consumers of it. And while you are increasing your focus on space superiority and for each of the service representatives, if you could give us a statement on what you need from space, how you use it, and what you expect from it?

[The information referred to can be found in the Appendix beginning on page 43.]

Mr. EVERETT. Mr. Spratt.

Mr. SPRATT. Could I just make a short statement?

Look, I understand the importance of what you are doing. I am concerned with the experience and by the rapid rate that this program ramps up to \$10 billion, moving from concept definition to, I guess, define phase in the next five years. That is a pretty big ramp-up. It is a lot of money.

One suggestion and one thing I would like for you to submit for the record, What are the pressure points? If you put your contract management people out in the various production facilities, what critical points are you going to be looking at so that you will know this thing is not working right, it is not developing as intended, costs are turning upward?

Could you give us that off the back of an envelope and then submit it just for the record, just what you would look for, for the record?

Secretary TEETS. Yes, sir.

Mr. SPRATT. Either SBR or TSAT.

Secretary TEETS. We will definitely submit it to you for the record.

I would just say real quickly, particularly on the transformational column, we have a very aggressive maturation plan in front of us. There are several technologies that are at technology readiness level number three at the moment, which we need to mature to technology readiness level number six before we actually down-select to a single contractor, and that will be in fiscal year 2006. So we do want to retire technology risk early. And we have, I will say, an important plan for how we are going to measure incremental success as we go through this whole process, and we will be happy to provide that to you.

Mr. EVERETT. I think we have only got about eight minutes left.

In addition, General Lord, would you please give us some comments on the Evolved Expendable Launch Vehicle (EELV) providers essential to gaining access? We cannot get up there, we cannot do anything, and what steps are being taken to ensure that we have what we need to get up there?

[The information referred to can be found in the Appendix beginning on page 43.]

Mr. EVERETT. Meeting is adjourned. Thank you very much, gentlemen.

[Whereupon, at 3:33 p.m., the subcommittee was adjourned.]

A P P E N D I X

FEBRUARY 25, 2004

PREPARED STATEMENTS SUBMITTED FOR THE RECORD

FEBRUARY 25, 2004

Opening Statement
The Honorable Terry Everett
Chairman, Strategic Forces Subcommittee

**Hearing on the Department of Defense Space Programs and
the Fiscal Year 2005 Budget request for Space Activities**

The hearing will come to order.

The Strategic Forces Subcommittee meets today to receive testimony on Department of Defense space programs and the fiscal year 2005 budget request for space activities.

I want to welcome Under Secretary Peter Teets who is testifying today as the head of National Security Space Programs. I also want to welcome, seated behind Secretary Teets, the Service Space Program heads:

- representing the Air Force, General Lance Lord, Commander, Air Force Space Command;
- For the Army, Lieutenant General Larry Dodgen, Commander, Space and Missile Defense Command;
- the Navy, Rear Admiral Rand Fisher, Commander, Space and Naval Warfare Systems Command;

- and finally Brigadier General John Thomas, Director of Command, Control and Communications (C4), and Chief Information Officer (CIO) for the Marine Corps.

Following Secretary Teets' remarks, I invite you to join him at the witness table as committee members ask questions.

We have a great deal of ground to cover today, and I want to allow each of our members as great an opportunity as possible to ask questions, so I will be brief. Likewise, I would ask you Mr. Secretary to be brief with your prepared remarks – the entirety of your written statement will be entered into the record.

This is the second gathering of this panel, led by Under Secretary Teets. He is the first person to serve as overall head of National Security Space Programs. Consolidation of space activities under a single executive agent was a strong recommendation of the Space Commission. On the one hand, the Secretary oversees an area of technology that is rapidly growing in importance, and on the other hand, he has inherited many space programs that have experienced cost growth and schedule delays. These issues are of paramount concern of this committee and this Congress as an institution.

When we last met, one year ago, we were at the lessons learned stage coming off of a major conflict: *Operation Enduring Freedom* in Afghanistan. Now, we've come full circle and have further applied these precious space resources to another conflict, *Operation Iraqi Freedom*. Our success in these difficult missions would not be possible without the space-based capabilities used by the witnesses who appear before us today.

The Secretary faces the institutional hurdle of better integrating military and intelligence community space activities, which promises to benefit both user communities, as well as provide more value to the taxpayer. Are we using these resources to the best of our abilities, and if not Mr. Secretary, I ask you today, how is it that the Congress can better help you?

Further, Secretary Teets is faced with the difficulty of maintaining assured access to space while transitioning from legacy space boosters to the new family of Evolved Expendable Launch Vehicles during a period when reduced commercial launches places added financial pressures on both suppliers.

Finally another challenge, highlighted almost daily in the press, is the planned transition from existing space-based communication systems to a new transformational communications system based on laser interconnection. That system is to provide the increased information handling capability our future forces require.

The bottom line is that it is very difficult to see how, with the constrained resources available, we will be able to adequately fund maintenance of existing capabilities while simultaneously fielding Future Imagery Architecture and developing expensive future systems like Space Based Radar and the transformational communications satellite system.

[Recognize Chairman Hunter and Ranking Member Skelton if present]

Now I would like to recognize my friend and distinguished Ranking Member Mr. Reyes, for any comments he may have.

[Following Mr. Reyes remarks]

Thank you Mr. Reyes.

Secretary Teets, I look forward to your testimony.

[Following Secretary Teets' testimony]

Thank you Secretary Teets. At this point, before we proceed to questions, I invite our Service Space Program heads to join you at the witness table.

[Proceed with Q&A]

Thank you all for taking the time to be with us today. Your statements and comments will be very helpful as we consider the Administrations fiscal year 2005 budget request.

The hearing stands adjourned.

★ HOUSE ARMED SERVICES COMMITTEE ★**STATEMENT BY
UNDER SECRETARY OF THE AIR FORCE
THE HONORABLE PETER B. TEETS****BEFORE THE
COMMITTEE ON ARMED SERVICES
UNITED STATES HOUSE OF REPRESENTATIVES
SUBCOMMITTEE ON STRATEGIC FORCES****REGARDING THE FISCAL YEAR 2005
NATIONAL DEFENSE AUTHORIZATION BUDGET REQUEST:
STATUS OF THE SPACE PROGRAMS****FEBRUARY 25, 2004****Introduction**

It is my distinct honor to appear before the Committee today representing the world's finest air and space force, and to be joined by the service leads of our National Security Space activities: General Lance Lord, Commander of Air Force Space Command; Lieutenant General Larry Dodgen, Commanding General, Army Space and Missile Defense Command; Rear Admiral Rand Fisher, Director Naval Space Technology Programs, Space and Naval Warfare Systems Command; and Brigadier General John Thomas, Director, Command, Control, Communications and Computers for the U.S. Marine Corps. Our appearance here, together, underscores the importance of jointness in our National Security Space endeavors.

Given the role of this Committee, and my role in overseeing National Security Space activities as Under Secretary of the Air Force, Director of the National Reconnaissance Office (NRO), and the DoD Executive Agent for Space, I will concentrate my remarks today on the five priorities I have set for our National Security Space efforts for 2004. They are: (1) achieving mission success in operations and acquisition, (2) developing and maintaining a team of space professionals, (3) integrating space capabilities for national intelligence and warfighting, (4) producing innovative solutions for the most challenging national security problems, and (5) ensuring freedom of action in space. These priorities are my focus for this year and are supported in the FY05 budget for our DoD and NRO space programs.

Achieve Mission Success in operations and acquisition

Our ongoing activities in support of the Global War on Terrorism highlight the fact that our space capabilities have become increasingly integrated in our national intelligence and warfighting operations. Space systems are unique assets - they provide global persistence, perspective, and access unhindered by geographic or political boundaries. Our space systems, whether integrated with airborne and surface sensors, or acting alone over areas of high risk or denied access, provide critical surveillance and reconnaissance information to national decision makers and combatant commanders. They are also the primary sources for global environmental monitoring and weather forecasting data, global communications, missile warning, precision navigation and timing to troops on the ground, ships at sea, aircraft in flight, and weapons en route to targets. These space capabilities enabled the tremendous success our joint warfighters achieved during combat operations in Afghanistan and Iraq and will continue to be a cornerstone for success in future conflicts.

Our success in conflict relies on a mixture of technologies, tactics, and people, including military members, government civilians, and contractors. During Operation IRAQI FREEDOM, Air Force Space Command crews and their contractor mission partners developed new tactics and procedures to achieve the highest Global Positioning System (GPS) accuracy possible to support combat operations; as a result, we were able to strike legitimate regime targets with pinpoint accuracy while minimizing collateral damage, protecting civilian lives, and reducing re-strike requirements. Also, in a prime example of the benefits provided by integrating sources, coalition forces used a mixture of space, airborne, and surface sensors to detect Iraqi theater ballistic missile launches, protecting lives while allowing our troops to sustain their operations tempo.

To maintain our asymmetric advantages in space, we must continue to provide our warfighters with the most capable and reliable systems possible. We have eight national security space launches planned for CY04, which focus on sustaining and improving existing military and intelligence satellite constellations. This year, we will launch three GPS IIR satellites, and on February 14, 2004, I was pleased to be present as our Air Force and industry team successfully launched a Defense Support Program (DSP) satellite to augment our strategic missile warning capabilities. This launch, and the launch of an NRO payload in the last quarter of CY04 - one of three NRO launches this year - mark the last Titan launches from Cape Canaveral after 45 years of test and operations. Now our focus is shifting to the Evolved Expendable Launch Vehicle (EELV) system for our future space launch missions. In support of

this transition, we plan to launch the first heavy lift Delta IV EELV this year, giving us the capability to launch our heaviest communications and national security payloads. Our budget this year supports an anticipated price increase in future EELV buys, due largely to the downturn in the commercial launch market.

Mission Success in operations must be accompanied by Mission Success in acquisitions. We have benefited greatly from the recommendations of the joint Defense Science Board and Air Force Scientific Advisory Board task force on Acquisition of National Security Space Programs, led by Mr. A. Thomas Young. One of their recommendations, with which I strongly agree, is that Mission Success should be the primary driver of a program, not cost and schedule.

As programs are established, strong systems engineering practices need to be employed. Management of requirements, early risk reduction activity, rigorous design discipline, periodic independent program assessment, and thorough component subsystem and system level test activities need to be built into the program at the onset. Program Managers must have unencumbered schedule and financial reserves at their disposal to solve problems that arise during program execution.

In an effort to institutionalize this thinking, and following an extensive coordination process with OSD and the Joint Staff, I signed the new National Security Space (NSS) Acquisition Policy 03-01 on October 6, 2003. Using this process, we have conducted Defense Space Acquisition Boards that approved Space Based Radar's (SBR) entry into the Study Phase and Transformational Satellite's (TSAT) entry into the Design Phase. In each case, an Independent Program Assessment Team and an Independent Cost Assessment Team identified key risk areas and made excellent recommendations on how to best manage the risks inherent in these complex and vital programs. In concert with the Joint Staff, the Intelligence Community, and OSD, we are implementing these recommendations so that these critical programs have the necessary foundation to assure their future mission success.

In addition to the institution of NSS 03-01, we have made great strides in developing better cost estimates. In a joint effort with the Director of OSD Cost Analysis Improvement Group (CAIG), we now have a strong space system cost estimating capability in place; and, with the CAIG leading the Independent Cost Assessment Teams, have incorporated the process on SBR and TSAT.

NSS 03-01 and its companion directive in the NRO, in their current forms, have provided excellent insight into our programs. Yet, we're learning

with each program acquisition milestone decision, and will update the policies later this year.

Develop and maintain a team of Space Professionals

In order to preserve our advantage as the leading space faring nation, we must ensure we have a strategy to guarantee availability of the most crucial element of space power - our space professionals. People remain central to our success in space, and meeting the serious challenges of today, and the future, requires a Total Force approach. We will continue to develop well-educated, motivated, and competent people who are skilled in the demands of the space medium.

Operationally, they must understand the tactical environment they support, as well as the space-unique tactics, techniques, and procedures needed. Technically, they must be schooled in the acquisition of space systems, the requirements of the vehicles that operate in space, and the development of space-related research, science, and technology. Our space professionals must be sensitive to the needs of the many and varied end-users of space capabilities, and be able to formulate and articulate new space doctrine to fully control and exploit the medium of space in support of our nation's security objectives. They must be able to develop new technologies, systems, training methods, concepts of operations and

House Armed Services Committee
2120 Rayburn House Office Building
Washington, D.C. 20515

**QUESTIONS AND ANSWERS SUBMITTED FOR THE
RECORD**

FEBRUARY 25, 2004

QUESTIONS SUBMITTED BY MR. EVERETT

Mr. EVERETT. General Lord, I would ask for you to make sure that you tell us how you propose to improve space education, not only for those directly involved in it but also for those in other military branches of the service who might be consumers of it. And while you are increasing your focus on space superiority and for each of the service representatives, if you could give us a statement on what you need from space, how you use it, and what you expect from it?

General LORD. I will address this question in two parts. First, we will discuss space education; followed by comments on space superiority efforts. As you know, you cannot go to war and win without space.

First, the National Security Space Institute (NSSI) is Air Force Space Command's execution agency for improving military space education. The NSSI offers courses specifically focused on space in joint warfighting and courses geared for DOD space professionals. NSSI space professional courses are presented to a variety of students from all the Services and several Government agencies, and are taught by a multi-service instructor cadre. We will mature the NSSI concept to make it the "go to" place for space education within DOD. NSSI will offer several space professional education courses: Space 200 and 300 and Advanced Space Training courses.

Space 200, intended for mid-career professionals, is a four-week course being taught now. It addresses National Security strategy, space system design and acquisition, space law, space organizations and space integration into military operations. Space 200 is also the first 4 weeks of the Army's 12-week qualification course for their FA 40 space specialty.

Space 300, currently in development, is intended for multi-service and Government agency space professionals at the 13-15 year career point. The course will focus on space requirements, doctrine and policy and groom future space leaders.

The Advanced Space Training courses are in-depth 12-week programs designed to develop detailed knowledge of a specific space mission. A Navigation Operations course is currently being taught and a Missile Warning course is in development. Five to six additional courses will be developed as resources permit.

Additionally, Air Education and Training Command teaches our introductory Space 100 Course to newly accessed space professionals.

In addition to these programs, AFSPC will leverage the capabilities of the Air Force Institute of Technology and the Naval Postgraduate School to provide masters degree programs and certificates for qualified space professionals. We have also signed a memorandum of understanding with the University of Colorado at Colorado Springs to develop and manage a Space Education Consortium of space education institutions that will complement AFIT, NPS and NSSI programs with courses, degree programs, research and symposia.

Enhanced education and career management provide the tools necessary for our space professionals to accomplish our space superiority mission. There are three elements required to sustain space superiority. First, space situation awareness provides the space intelligence, surveillance, reconnaissance, and environmental information allowing battlefield commanders to plan, talk, execute, and assess counterspace operations. Next, defensive counterspace protects our advantage in space through identifying, diagnosing, and reporting adversarial attacks. Finally, offensive counterspace provides the Nation the ability to counter enemy systems through reversible effects.

Air Force Space Command expects to gain and maintain space superiority and the protection from attack. Through space superiority, our space platforms continue to provide our air, sea, and land forces the space assets necessary for optimal force employment to ensure our Nation's defense and warfighting edge. Our Nation depends on space!

Mr. EVERETT. General Lord, would you please give us some comments on the EELV providers essential to gaining access? We cannot get up there, we cannot do anything, and what steps are being taken to ensure that we have what we need to get up there?

General LORD. Air Force Space command's position is that two launch vehicle providers are essential to meet assured access to space for critical national security

payload requirements. At the same time we are aggressively pursuing operationally responsive space concept exploration and demonstration as a way to reduce the costs of access to space.

Assured access to space, providing space capabilities and effects to the Commander-in-Chief, Director of Central Intelligence and the combatant commanders when and where needed, is a critical national security requirement. Furthermore, we strongly support current national space policy and believe the US must possess an indigenous capability to assure access to space. With the increased warfighter dependence on space systems, as demonstrated in Operations DESERT STORM, DESERT FOX, ALLIED FORCE, NOBLE EAGLE, ENDURING FREEDOM AND IRAQI FREEDOM, our Nation's need for reliable assured access to space assumes even greater criticality.

With our EELV industry partners, we have now developed and fielded two modern space launch systems, which together eliminate US dependence on a single source for access to space. Although few systems are common between EELV providers, the second provider significantly reduces the probability of simultaneous stand-downs and thus increases assured access to space. What is needed now is the sustainment of two viable EELV launch vehicle families for the foreseeable future.

In summary, the pillar of assured access is two EELV launch providers. With two launch providers, the Nation has a well-maintained ability to launch critical national security payloads.

Mr. EVERETT. Also I'd like to without objection add to the record a list of civilian uses of GPS, how important not only on the military side, but how important it is to the world we live in.

Secretary TEETS. The Global Positioning System (GPS) is a space-based radio-navigation system managed and operated by the United States Government.

GPS was designed primarily to enhance US and allied military effectiveness. GPS provides a substantial military advantage and is now being integrated into virtually every facet of military operations. Some of these uses include satellite positioning, navigation, imagery, force location, force deployment, weapons guidance, targeting, and network timing.

Over the past decade, GPS has grown into a multi-use service with many Civil and commercial applications. As an integral part of the Global Information Infrastructure, GPS has applications ranging from mapping and surveying, network timing (power grid interfaces, cellular telephones, Automatic Teller Machines), personal navigation, trucking and shipping, aviation, international air traffic management, railroads, communications, fishing and boating, offshore drilling, recreation, and global climate change research. Services dependent on GPS information provide an engine for economic growth, improved safety of life, and support multiple sectors of US critical infrastructure.

Mr. EVERETT. Look, I understand the importance of what you are doing. I am concerned by the experience of SBIRS High and by the rapid rate that this program ramps up to \$10 billion moving from concept definition to design phase in the next five years. That's a pretty big ramp up. That's a lot of money. One suggestion and one thing I would like to submit for the record, what are the pressure points? If you put your contract management people out in the various production facilities, what critical points are you going to be looking at so that you know that this thing is not working right, it is not developing as intended, costs are turning upward. Could you give us that off the back of an envelope and submit it for the record also, what you would look for here that would be either SBR or TSAT.

Secretary TEETS. I believe that there are a number of pressure points common to each space program acquired. We've been able to identify these points in recent years, both through our own experience, and through the advice of independent observers. My efforts have focused on implementing reforms that recognize these challenges, and address these challenges while they are still manageable.

Foremost in these efforts, we have developed a new national security space acquisition policy known as NSSAP 03-01, or 03-01. The processes defined in 03-01 recognizes the important differences in acquiring a small number of space systems versus acquiring large numbers of military equipment at a high-rate like, for example, airplanes or tanks. Our new acquisition process incorporates numerous lessons learned through the Department's experience in managing complex space programs. It also leverages many of the "best practices" we've seen succeed in Government and industry.

We benefit greatly from independent perspectives such as those provided by Tom Young's Task Force on Space Acquisition. His reports in particular have been tremendously useful in explaining why the Department of Defense has had difficulties in acquiring complex space programs, programs like SBIRS High.

One principle in NSSAP 03-01 is early investment in the design of space programs to ensure that adequate systems engineering, risk reduction, and trade studies are performed early on, when these efforts can easily influence the program and result in a lower program costs. This principle is particularly applicable to our newest space programs, Space Based Radar and the Transformational Satellite (TSAT).

Part of early risk reduction is technology maturation. Technology readiness is a key metric for us, and the initiatives in TSAT and SBR give me confidence that we are doing things right. I've instituted an independent Technology Maturation Assessment to be conducted before major milestone reviews, so that we can be confident that space programs are ready to proceed to the next phase of development. Each critical and enabling technology must mature at a rate consistent with our plan in order to proceed into the next phase of the program.

In the specific case of TSAT and SBR, we use a metric that originated with NASA known as Technology Readiness Levels (TRLs) to measure progress of our technology development efforts. With respect to TSAT, we aim to mature the necessary technologies to TRL 6 prior to the TSAT Preliminary Design Review (PDR). TRL 6 is achieved by building a subsystem that includes the technology in question and testing it in a space-like environment. The TSAT acquisition strategy requires that the contractors demonstrate all critical technologies in an independent government testbed prior to awarding the Space Segment production contract. This deliberate path provides the Government with sound data needed to understand the cost, schedule, and performance of the production project, thereby greatly reducing program risk.

In addition to the focused technology maturation efforts, our strategy includes backup technologies or "offramps", if the desired technologies are not sufficiently mature to continue program development. For example, if a certain TSAT technology is unable to achieve TRL 6 by Preliminary Design Review (PDR), we have mature technological alternatives available that permit us to continue the overall program and deliver the most effective near-term capability to the warfighter.

Another lesson we have captured in 03-01 is the danger of requirements creep. We have instituted disciplined systems engineering processes, requirements and baseline control to manage requirements creep. The TSAT acquisition strategy employs an independent System Engineering & Integration contractor supporting Government efforts to establish and maintain the processes required to develop a complex, integrated space communications system.

Likewise, SBR uses an Independent Review Team to implement a disciplined systems engineering approach that incorporates internal processes such as configuration control and program management boards. In addition, to combat requirements creep, the SBR Executive Steering Group (ESG), comprised of members of the Department of Defense and Intelligence Community, provides strategic guidance to the Requirements Capabilities Group (RCG), whose members include the mission partners and user community. All new requirements are brought to the RCG for review and ultimately adjudicated through the ESG. No new requirements are accepted by the SBR program director unless successfully vetted through this process.

Another significant challenge is managing complex software development for space programs. To help avoid software development pitfalls, the Space & Missile Systems Center has established a separate Software Division, headed by a full-time software engineer hired directly from the Carnegie Mellon University Software Engineering Institute. This organization is tasked to assist programs like TSAT and SBR in mitigating problems with software requirements analysis and traceability, while providing meaningful software schedule progress metrics.

Successful acquisition absolutely requires a trained and motivated technical workforce. The DoD and Air Force Space Cadre efforts are critically important in developing the space acquisition workforce the Nation needs. At the program office level, we are using selective manning to apply experienced personnel against the technical and programmatic details of these complex programs. We are also building and maintaining strong program offices by stabilizing this workforce and asking our prime contractors to make the same commitments.

Finally, I must emphasize my first priority with regard to all space programs is mission success. In the past, schedule was often paramount, with critical acquisition decisions made solely to achieve a rigid need date. Building technological alternatives into space programs gives program managers the tradespace necessary for success. Building into programs funding and schedule reserve is equally important. The Young Panel and others agree that program managers must have unencumbered schedule and financial reserves at their disposal to solve problems that arise during program execution.

FISCAL YEAR 2005 NATIONAL DEFENSE AUTHORIZATION ACT—THE DEPARTMENT OF ENERGY'S BUDGET REQUEST FOR ATOMIC ENERGY DEFENSE ACTIVITIES (TITLE XXXI)

HOUSE OF REPRESENTATIVES,
COMMITTEE ON ARMED SERVICES,
STRATEGIC FORCES SUBCOMMITTEE,
Washington, DC, Thursday, March 18, 2004.

The subcommittee met, pursuant to call, at 10 a.m., in room 2216, Rayburn House Office Building, Hon. Terry Everett (chairman of the subcommittee) presiding.

OPENING STATEMENT OF HON. TERRY EVERETT, A REPRESENTATIVE FROM ALABAMA, CHAIRMAN, STRATEGIC FORCES SUBCOMMITTEE

Mr. EVERETT. The Strategic Forces Subcommittee meets today to receive testimony on the Department of Energy's fiscal year 2005 budget request for atomic energy and defense activities.

I want to apologize in advance for these somewhat crowded quarters today. We had a committee schedule change that required the shift of locations.

I also apologize for my voice. I seem to have a cold or bronchitis or something.

At any rate, I want to welcome Ambassador Linton Brooks, Administrator of the National Nuclear Security Administration (NNSA) and the Honorable Jesse H. Roberson, Assistant Secretary for Environmental Management of the Department of Energy. Ambassador Brooks will cover the NNSA's budget request for fiscal year 2005.

NNSA's request is for just over \$9 billion and consists of funding of weapons activities, defense nuclear nonproliferation, naval reactors and the Office of the Administrator.

Secretary Roberson will also provide testimony on the Department of Energy's request for defense Environmental Management.

She will tell us about the progress the Department is making in accelerating the schedule and reducing the cost of clean-up at numerous sites around the country. The Environmental Management budget request is for just over \$7 billion.

We have a lot of ground to cover today.

We will have votes unfortunately around 11 o'clock that will consist of one 15-minute vote and two five-minute votes. And I do want to allow each of our members as great an opportunity as possible to ask questions, so I will be brief.

Likewise, I would ask our witnesses to please be brief with their prepared remarks. The entirety of your written testimony will be entered into the record.

Last week this subcommittee met in closed session to discuss issues associated with nuclear weapons, including advanced concepts, and the Robust Nuclear Earth Penetrator (RNEP). This session, in contrast, is open under rule 9 of the committee.

I would ask members for their cooperation in keeping their line of questions unclassified. Questions of a classified nature should be submitted as written questions for the record following appropriate procedures.

Ambassador Brooks, I know you have challenges: restoring capabilities within a defense nuclear complex that was largely built over 50 years ago; continuing to support certification of the nuclear stockpile without testing; and implementing additional security measures to counter the new Design Basis Threat.

While we understand the Department of Defense is in the final stages of completing its Strategic Capabilities Assessment to review the future size of the nuclear stockpile, we can expect nuclear weapons to remain a cornerstone of our national security posture for the foreseeable future.

Our science-based approach is to stewardship which is critical to the difficult technical challenge of verifying the safety and effectiveness of our nuclear arsenal in the absence of testing.

As the number and variety of weapons in the stockpile come down, it is more important than ever to maintain confidence in those weapons remaining through our science and engineering campaigns.

I look forward to your assessment of where we are with our stockpile today, and where we are headed in the future.

Secretary Roberson has the great task of cleaning up a Cold War legacy of 114 contaminated sites resulting from more than half a century of R&D, production, and testing of nuclear weapons.

The magnitude of the problem is apparent when one considers that over 40 percent of the funds requested for atomic energy defense activities, (\$7.7 billion) supports this undertaking.

The Department's Environmental Management team has undertaken a commendable but challenging task to both accelerate site cleanups and reduce costs.

As a result of two years ago, as recent as two years ago, the life cycle cost estimate for cleanup of these legacy sites stood at \$220 billion with work at some of our most contaminated sites not reaching completion until 2070.

In fiscal year 2003, the Department embarked on an aggressive reform effort to refocus emphasis from risk management to risk reduction.

The current plan calls for completion of all remediation efforts by 2035, at a cost savings of over \$50 billion. I look forward to hearing your progress on this complex.

I would like to now recognize my good friend and colleague, Mr. Reyes, the ranking member of the subcommittee.

Mr. Reyes.

[The prepared statement of Mr. Everett can be found in the Appendix on page 75.]

STATEMENT OF HON. SILVESTRE REYES, A REPRESENTATIVE FROM TEXAS, RANKING MEMBER, STRATEGIC FORCES SUB-COMMITTEE

Mr. REYES. Thank you, Mr. Chairman, and I join you in welcoming our distinguished witnesses before our subcommittee this morning.

Ambassador Linton Brooks, the Administrator of NNSA, oversees a budget of almost \$8.7 billion in 2004 and is requesting a little over \$9 billion in 2005.

The Assistant Secretary for Environmental Management at the Department of Energy, Jesse Roberson, oversees a budget of more than \$7 billion that falls within the jurisdiction of the committee.

NNSA is responsible for maintaining our nuclear deterrent and a key player in reducing the spread of nuclear weapons and materials.

Secretary Roberson has a formidable task of managing the clean up of millions of gallons and hundreds of tons of highly radioactive waste throughout the country.

While these programs tend to get overshadowed by the programs of the Department of Defense (DOD), that often fall within our committee's jurisdiction, these however, are critical programs and the dollars are very significant, even by DOD standards.

I want to thank the chairman, my friend and colleague, Mr. Everett, for holding today's hearing, because these programs and the issues that they involve are much too important for us to overlook or take lightly.

Ambassador Brooks, you met with me a few weeks ago and we discussed the difficulties of reports required to Congress and their delivery on time.

I know you are trying not only to get us the reports that are due to Congress this year, but by putting in place the institutional mechanisms that will make future reports, I hope, more timely.

I commend you for this effort, but I do want to let you know that we are still anxiously awaiting several key reports, including the Revised Nuclear Weapons Stockpile Plan, the annual certification of the safety and reliability of the nuclear arsenal and the report on the effect of the repeal of the Spratt-Furse ban on the so-called "mini-nukes" on our nonproliferation efforts.

I hope you can use this public reminder as leverage in your dealing with other agencies to speed up the process and get us those reports.

In deference to the chairman's desire to limit opening statements, I will keep the rest of my opening remarks brief, but I do want and hope that our witnesses will address in their opening statements several topics that I consider to be particularly important.

First: why is the NNSA putting a placeholder for the Robust Nuclear Earth Penetrator in its out year budget?

Second: what are the goals of the Advanced Concepts program, especially in regard to low-yield weapons?

Third: how are we accelerating clean up at our contaminated sites without comprising clean up standards?

And last: what impact will the recent court decision on waste incidental to reprocessing have on our clean-up programs?

So, Mr. Chairman, I look forward to the testimony of our witnesses and I yield back.

[The prepared statement of Mr. Reyes can be found in the Appendix on page 81.]

Mr. EVERETT. Thank you. And Secretary Roberson let me apologize for adding my first name to your last name. Ambassador, please proceed.

STATEMENT OF AMBASSADOR LINTON BROOKS, ADMINISTRATOR, NATIONAL NUCLEAR SECURITY ADMINISTRATION, DEPARTMENT OF ENERGY

Ambassador BROOKS. Thank you, Mr. Chairman. Thank you for the opportunity and thank you for the strong support of this subcommittee in years past. As you know, we have several missions at NNSA.

We have to maintain a safe, secure and reliable stockpile, we have to implement the President's Nuclear Posture Review, we have to reduce the threat posed by proliferation, we have to maintain security, we have to reinvest in our nuclear weapons infrastructure and support nuclear propulsion. Let me turn first, and spend most of my time on weapons activities. The Nuclear Posture Review guides our request. The Nuclear Posture Review requires us to maintain safety and reliability of the stockpile, enhance stockpile surveillance, to extend the lives of selected weapons, to maintain a research and development and manufacturing base and support facilities and infrastructure.

Our budget for this request is \$6.5 billion.

I am generally pleased with the continuing ability of the stockpile's Stewardship Program to certify to the President safety, security and reliability of our aging nuclear weapons stockpile and to do so without underground testing.

The annual certification report that the ranking member mentioned, I expect, will be to the committee very shortly. Very shortly means a few days, as will the report on the repeal of the Spratt Amendment.

The revising of our weapons stockpile plan is a little farther out, but we are actively working it.

We are using, as you mentioned in your opening statement, cutting edge, scientific and engineering tools, as well as laboratory testing to improve our understanding of the stockpile.

We are extending the life of several existing weapons through the Life Extension Program and this program is proceeding well.

In this year, we will see the completion of life extension for the W-87 ICBM warhead and we will be working toward a first-production of the extended W-76 submarine-launched ballistic missile warhead, which will come in 2007; the extended life for the B-61 bomb, which will come in 2006; and the extended life production for the W-80 cruise missile warhead, which will come in 2008.

And all these dates support the Department of Defense schedules.

National Ignition Facility at Lawrence Livermore National Laboratory will perform its first Stockpile Stewardship experiment this year using 4 of the ultimate 192 beams that it will have; even with these four beams it will be the most powerful laser in the world.

The Advanced Simulation and Computing Program expects delivery of two new machines this year and the next year.

And these machines will provide important data to support our ability to model nuclear effects and will be, when delivered, the fastest computers in the world.

Nuclear Posture Review gives equal priority to infrastructure and to weapons. In their two complementary accounts in their budget: Readiness in Technical Base and Facilities and the so-called FIRP for Facilities and Infrastructure Recapitalization Program, that are crucial to maintain this infrastructure.

Readiness in Tech Base and Facilities is an on-going account that provides the funding needed to operate and maintain facilities.

In contrast, FIRP is a get-well program authorized by the Congress to eliminate maintenance backlogs, is on schedule to meet the congressional goals.

You will note that of a considerable amount of the increase between last year and this year goes to this program. The programs work together.

We are fixing the backlog and these efforts remain important and I urge the committee to continue to support them.

Now, the programs I have described will let us maintain the stockpile over the next decade.

The Nuclear Posture Review recognized the need over the long run to design and build what is called a Modern Pit Facility, or a more precise term, would be a pit rework facility, to support remanufacturing needs of the stockpile.

It is important to understand that we need this facility, even if the United States never produces another new nuclear weapon.

All existing plutonium pits will ultimately need to be rebuilt due to aging effects caused by the radioactive decay of plutonium.

We have delayed issuing the final environmental impact statement for the Modern Pit Facility in order to address congressional concerns, many of them tied to the stockpile report that the ranking member mentioned.

That final environmental impact statement would guide the Secretary's decision about site selection and was scheduled for publication by April.

As a result of the delay, we are not in position to identify a preferred site for the construction. I am committed to trying to resolve the issue so we can move on with that.

The decision to delay the environmental impact statement does not affect our limited W-88 pit manufacturing and recertification at Los Alamos, which is on schedule to reduce a war-reserved pit for our Triton II missile by 2007.

Now, while I have no reason to doubt the ability of the Stockpile Stewardship Program, we must maintain our ability to carry out a nuclear weapons test in the event some currently unforeseen problems arise that can't be resolved by other means.

The Defense Authorization Act requires the Secretary of Energy to achieve by October 1st of 2006 a readiness to conduct an underground nuclear test within 18 months.

Our fiscal year 2005 request will allow us to meet this congressional mandate.

At the same time, the President has made it clear we have no current intention for resuming testing and our plans to improve test readiness are our hedge against the possibility of a problem that can't be confirmed or repair certified without a test.

The programs I have described thus far permit us to maintain the stockpile and to deal with unforeseen problems.

Pit review also highlighted the importance of ensuring that the weapons complex can adjust to changing requirements of nuclear deterrence in the coming decades.

In 2005, we are requesting \$9 million to continue a modest research and development effort on Advanced Concepts, to meet potential new or emerging Department of Defense requirements.

And we are requesting \$27.6 million to continue the Robust Nuclear Earth Penetrator feasibility study.

There has been a great deal of discussion on the implication of these two programs and I would like to talk about them in some detail. Some of the discussion has been based on misunderstanding of our intent. Unfortunately, I contributed to that misunderstanding in a December memorandum I sent the weapons laboratory to document the removal of the prohibition on conducting research and development that could lead to development of a new low-yield nuclear weapon.

As I stated in that memorandum, with the removal of this provision, which was supported by this committee, it allows us to explore advance concepts without an artificial constraint.

My memorandum did not direct the conduct of research aimed at developing new weapons, but it was poorly written and invited misinterpretation, and I apologize for the confusion.

We intend to use the Advanced Concepts funds to investigate new ideas, not necessarily new weapons.

For example, with the unfenced portion of the fiscal year 2004 money, we are beginning a study to examine the feasibility of adapting an existing nuclear warhead and provide a cruise missile capability that incorporates enhanced safety and use control.

We also have work underway to examine the feasibility of improving the design margins of existing warheads in order to ensure higher confidence in warhead reliability without nuclear testing.

We are also in discussion with the Air Force on examining the utility of nuclear weapons against chemical and biological agents, although no decision to study this area has yet been reached.

The specific uses for the remaining fiscal year 2004 and the proposed 2005 funds will be determined jointly with the Department of Defense.

Perhaps the single most contentious issue in our budget request is the funding for the Robust Nuclear Earth Penetrator study.

This study is to determine whether existing warheads, the V-61 bomb or the B-83 bomb, could be adapted without nuclear testing to improve our ability to hold at risk hardened, deeply buried facilities that may be important to a future adversary.

I want to correct several misconceptions about this effort. There is a clear military utility to this, which is why the Department of Defense asked us to study it.

We submitted a classified report to this committee last year outlining that military utility. That report remains valid and I commend it to the committee's attention.

Despite that utility, we will move beyond the study stage, only if the President approves and if funds are authorized and appropriated by Congress; included funds in our out-year projections, only to preserve the President's option.

No decisions will be made until the study is completed. The law is very clear that beginning developmental engineering requires Congressional approval.

Finally, even if it were to be authorized, produced and deployed, this weapon does not represent a change from our policy of deterrence.

Deterrence requires we be able to hold at risk that which an adversary values, and once again, I refer you to the classified report of last year to suggest why we believe that this capability would add to deterrence.

As the Congress evaluates our request, it is important to understand that while press accounts have spoken of Administration plans to develop low-yield weapons, there are no such plans.

Nothing we are doing will lower the nuclear threshold; nothing we are doing will blur the distinction between nuclear and non-nuclear weapons.

Only the President can authorize the use of nuclear weapons and no President would make that decision except under the gravest of circumstances.

Mr. Chairman, our request also includes funding for defense non-nuclear proliferation of \$1.35 billion and additional details of that program are in my written statement.

We are also requesting just under \$800 million for the Naval Reactors Program, which continues to be a prime example of how to manage unforgiving and complex technology. Naval reactors provide safe and reliable nuclear reactors to power the navy's warships.

The 5 percent budget request increase supports completion of 70 percent of the design of the next generation reactor for an aircraft carrier and continued work the so-called transformational technology core, which will improve operational ability and flexibility of our submarines.

The other large area of increase in this budget has to do with safeguards and security. As you know, safeguards and security at all DOE sites is one of Secretary Abraham's and my top priorities.

The Secretary issued a new Design Basis Threat in May 2003, based on a post September 11th analysis of the threats, against which, we must protect.

Our budget requests \$707 million, including \$125 million as part of a three-year plan to meet the design basis threat, by improving weapons for our security forces, extending explosive impact zones and consolidating nuclear material.

In addition, I anticipate that we will be submitting a reprogramming request shortly to provide additional funds in this fiscal year.

As the committee may remember, since we did not establish the new design basis threat until after our budget was submitted last year the 2004 budget did not fully fund all of this in view of its

importance. I anticipate the committee will see a reprogramming request quite shortly.

We have had, in recent months, some highly publicized security issues: keys that have been lost and allegations of cheating on performance tests. In each instance, we have taken immediate, aggressive action to ensure that any vulnerability is mitigated and longer-term fixes are put into place.

We have also chartered two external review groups to provide independent assessment of our management of security.

I am absolutely confident there has been no compromise of classified material and no nuclear materials at risk. I believe security can and should be improved.

The Secretary and I have both made it clear that we will not tolerate any reduction, perceived or real, in our readiness or in our ability to protect that complex.

Finally, I would like to conclude by discussing some management challenges that NNSA is facing.

First: we are in the final phases of a reengineering effort that follows the principles of the President's management agenda to modernize and streamline operations.

In December of 2002, I announced a major restructuring that eliminated a layer of management, consolidate business and administrative functions and clarified roles and responsibilities. As a result of these, which will be fully implemented by the end of this fiscal year, there will be about a 20 percent reduction in personnel, in all areas, except non-proliferation naval reactors and transportation.

Second: we are making good progress to overcome some of the management difficulties that beset the weapons laboratory last year. The operating contractor and NNSA have made some changes which I believe will go a long way to correct some of the problems.

Secretary Abraham has outlined the Department's strategy for competing management and operating contracts for weapons laboratories as required by the Energy and Water Development Appropriations Act.

We intend to compete at Los Alamos on a full and open basis and we will be prepared to award new contract by September 30th of 2005.

We will also complete Lawrence Livermore National Laboratory; the timing is still being determined.

Finally, we are in the early stages of evaluating a new model contract with Sandia, an approach that should result in more effective oversight by NNSA.

Along with our budget, the Administration has submitted a legislative recommendation to alter the NNSA Act to allow the consolidation of counterintelligence into a single office with the Secretary of Energy.

The current arrangement in which responsibilities are fragmented between an office in NNSA and an office in the Department of Energy has proven inefficient.

Proposed legislation in my judgment will not undermine the fundamental principles of the NNSA Act.

Instead, it will put counterintelligence on the basis as intelligence has always been: in a single office, reporting to the Secretary, but supporting the entire Department, including NNSA.

And I urge the committee to support this legislation.

Mr. Chairman, our budget request is completely consistent with the President's policy to reduce the lance on nuclear weapons and with a historic U.S. focus on deterrence.

Our request will support continuing our progress and protecting and certifying our nuclear deterrent, reducing global danger from proliferation and enhancing the forward projection capabilities of the Navy. It will enable us to continue to maintain the safety and security of our people, our information, our materials and our infrastructure. And above all, it will meet the 21st century national security needs of the United States. This concludes my statement and I look forward to your questions.

[The prepared statement of Ambassador Brooks can be found in the Appendix on page 100.]

Mr. EVERETT. Secretary Roberson, please?

STATEMENT OF JESSE ROBERSON, ASSISTANT SECRETARY FOR ENVIRONMENTAL MANAGEMENT, DEPARTMENT OF ENERGY

Secretary ROBERSON. Good morning and thank you, Chairman Everett and members of the subcommittee. Good morning to each of you.

I would like to begin by conveying the Department's appreciation to you for your support and commitment to the Accelerated Clean-up Program.

Your support is allowing us to achieve the dramatic results we forecast, actually in front of this committee, a short two years ago.

I am here today to discuss President Bush's fiscal year 2005 budget request for the Environmental Management Program and its goals of sustaining them in the interim that our work force has labored so hard to achieve: a momentum that benefits the vibrancy of our communities, our environment and our economy.

In these last two years, we have introduced dynamic reforms delivering fundamental change and achieving significant improvements in health, safety and environmental protection.

With your support, these reforms are fully ingrained in our operations and our business practices. We are making a historic contribution to reducing the financial liability associated with the legacy of the Cold War.

And with your continued support in our team focus on the clean-up enclosure, the momentum can continue. I would like to take a moment and underscore the impacts of refocusing the Environmental Management Program.

We have improved safety performance. We are committed to instilling this philosophy in every worker's day-to-day decisions from start to finish of every project. To that end, with top quality safety standards, we are demonstrating that we can accelerate work and improve safety performance at the same time. We have not, nor will we ever stop paying attention to safety. We will continue to raise the bar and hold ourselves accountable to the highest stand-

ards. Complacency is not acceptable in our advance to the safe conclusion of our cleanup objectives.

We have demonstrated cleanup results and risk reduction. Last year, we set a new floor performance not yet seen in the history of this program.

I say floor because we see this as a level of performance that we will continue to build upon. Over the last two years, as examples, six of nine nuclear fuse agents completely deinventoried; none were in our plans before.

Four thousand one hundred of 5,900 containers of plutonium, approximately 80 percent have been packaged; we are almost complete with that effort.

Over 1,300 of 2,400 metric tons, more than half, of the spent nuclear fuel is repackaged. Our work force has accelerated that work.

I can go on and on with examples of risk reduction and clean up and would actually love to, but we have to move on.

Our corporate performance measures, which I have included in my written statement, further demonstrate our deeds, and in combination with our safety performance, we have accomplished consequential outcomes important to the public, the communities that host our sites and the generations that follow us.

Three years ago, the Environmental Management Program was described as lacking a risk-based clean up approach and the hazards at DOE sites and the liability associated with them did not appear to dictate the need for urgency.

Innovative actions in all elements of Environmental Management's program were needed to transform our processes and operations to reflect an accelerated risk-stage clean up paradigm.

We are more than ever encouraging innovation in safety performance and accelerated risk reduction and in business management.

We believe that, provided an atmosphere that encourages innovation, we can reduce risk to workers and the environment more effectively, and save the resources to be reinvested and furthering the clean up priorities at these sites.

Tying all these accomplishments together has been our driving force to improve performance in our acquisition strategies specifically. Legal actions and court decisions may direct us to alter or modify our activities from the accelerated clean up and closure path. We are committed to work diligently with all concerned parties to avoid interruptions in reducing risks where we can.

This year has seen dramatic results, demonstrating our steadfast belief that continuing on the accelerated path will resolve the problems that lie before us. We must not lose our momentum and that has so earnestly been established by the work force, we must encourage its continuation. As with all new enterprises, impediments will be many, but we are committed to employ our resources to continue to show meaningful results and we are taking a very staunch view of both those results. The job is not done until it is done; we can't be complacent and we must continue to do better. It is not done when we develop a plan, it is not done when we agree on a milestone, it is not done when we ask for funding and it is not done when we sign a contract; it is not done when we get the money. It is not done until it is done and there is positive and measurable risk reduction for the investment made.

I ask for your support of our fiscal year 2005 budget request of \$7.43 billion to continue this momentum. We are safer today than we were last year and we must stay the course so that we are safer next year than today.

We have accelerated clean up by at least 35 years, saving over \$50 billion. The potential is there to lose what we have gained, should we fail to stay focused on our commitment.

I look forward to working with you and others to continue this worthy goal. Thank you.

[The prepared statement of Secretary Roberson can be found in the Appendix on page 85.]

Mr. EVERETT. Thank you, Secretary Roberson.

I am going to continue my recently started agenda of questioning until last and I will also give each member 10 minutes, because I do know the interests in these issues.

And we will start with our ranking member.

Mr. REYES. Thank you, Mr. Chairman.

My first question, Ambassador Brooks, deals with the Pacific Northwest National Laboratory (PNNL): how important is the work that PNNL performs for NNSA?

Ambassador BROOKS. PNNL performs a work in the nonproliferation area for NNSA.

And in that area, it is quite important.

I believe that although the laboratory is under the responsibility of the Office of Science, I am the largest single customer and the program at Pacific Northwest is roughly comparable in size to the program at the three weapons labs.

They have provided important work in our efforts to support nuclear safety. They have provided important work in our efforts at overall detection. So, they are clearly an important part.

We do nonproliferation work at 10 of the Department's laboratories, but the largest is at the three weapons laboratories in PNNL.

Mr. REYES. Given that, what plans does the Department of Energy and NNSA, in particular, have to address the potential loss of capability at PNNL, if the drop plan for accelerated clean up by 2026 is adopted by E.M. or Hanford?

Ambassador BROOKS. I think I might defer that since Secretary Roberson is here.

Mr. REYES. Okay.

Secretary ROBERSON. Thank you.

The accelerated clean up plan at Hanford, particularly for the 300 area actually began about four years ago and has come to this point as a result of that strategy.

During that time period, it does appear that the work for others that was being conducted in those facilities has increased, not just in the NNSA scope, but also Homeland Security.

We are working with the Department of Science and the Department of Energy's Deputy Secretary to try to identify work-arounds that maintain the capability that is necessary to support those missions and to ensure that we don't lose momentum in the accelerated clean up program.

We don't have that path in place just yet, but we are working together to achieve it.

Mr. REYES. Before I ask this next question, is the NNSA prepared to contribute to the cost of replacing the facilities that would be lost by area 300 in this clean-up?

Ambassador BROOKS. Well, at the moment, the laboratory is the responsibility of the Office of Science and the Office of Science hasn't asked for my help, so I haven't come to any decision about that.

And as Secretary Roberson said, we are all committed to finding work-arounds; work-arounds tend to cost money and exactly where that comes from within the Department we haven't sorted out.

Mr. REYES. Well, it is my understanding, Secretary Roberson, that the draft plan for accelerated clean up of the Hanford site and the 300 area in particular, that we were addressing, would force evacuation by 2007 of several buildings within the Pacific Northwest National Lab.

These are buildings that are currently active in conducting work for NNSA and the Department of Homeland Security.

We further understand that adequate replacement of these facilities cannot be in place by that 2007 deadline.

Is this schedule required by the tri-party agreement between the state of Washington and the Department?

Secretary ROBERSON. What we have is a clean up agreement with the state of Washington and the Environmental Protection Agency (EPA) region that defines the goals and target for accomplishing the clean-up of the Hanford site.

This schedule fits within the context of the Rivershore cleanup, the River Quarter, as it is called for at Hanford.

We obviously will have to work with the regulators to accommodate and extend that period of maintaining those facilities for a longer period of time.

We do have a strategy that has been agreed to with our regulators that does support the 2007 availability for clean up of that area and so it would require some discussion with the regulators.

And we are working very hard to identify a means to keep the clean-up on schedule, but we prioritize; would that rule require working within regulates to achieve.

Mr. REYES. So, there would be no impact, in terms of—

Secretary ROBERSON. No. We are trying to establish an approach that would minimize the impact. We are, by theory, that.

But we are working with the Department of Science and the Department's leadership to do that.

Mr. REYES. Would it be possible for some other utilization from the 2, from the 2018 date that is contained in that agreement, would that be possible without forcing evacuation in 2007, again, from the area 300 site?

Secretary ROBERSON. That is exactly what we are looking at and we just haven't been able to come to a conclusion.

We still have, of course, the need to discuss this issue with our regulators because it will require some reprioritizing of the approach that we had in place to do the work.

So, I can't say that there will be no impact, but we are certainly working very diligently. And I am getting a lot of help to make sure there is minimal impact.

Mr. REYES. Have you done any cost comparison versus benefits in the acceleration that is scheduled to begin with the evacuation of the 300 area in 2009 to one that would accelerate it to begin in 2007?

Has there been any kind of study or—

Secretary ROBERSON. Yes.

Mr. REYES [continuing]. Cost benefit analysis?

Secretary ROBERSON. Yes. The schedule for evacuation beginning the first day of fiscal year 2008, actually, it is October 1 of 2007, is actually based upon starting at the commitment date for clean up of that area and working backward.

So, that is how we arrived at that date.

To support longer existence in those facilities, we actually have to go in and look at how to strategically reprioritize the work scope, because we started at the end date of our commitment and worked in to make sure we gave maximum time.

It is a fairly complex problem; we are working very hard with science to minimize the impact and support they need to stay in the facilities longer. But I just don't have the answer for you, today, sir.

Mr. REYES. So, if I understand your comments correctly, since you don't have the answers to that, then there currently are no plans from Department of Energy and the Office of Environmental Management to address any potential loss in capability that would be associated with this accelerated clean-up?

Secretary ROBERSON. No, that is not what I am saying, sir.

The Department has looked at the scope of work that is being done in the facilities, and even though I don't have a need to know it all, I know enough that the Department is not going to make a decision that would have an adverse impact on NNSA's mission or Homeland Security.

What the Department is trying to do is to minimize the impact on the cleanup program as well.

Mr. REYES. Okay.

Secretary ROBERSON. At the same time.

Mr. REYES. All right.

Thank you very much. Thank you, Mr. Chairman.

Mr. EVERETT. Mr. Thornberry.

Mr. THORNBERRY. Thank you, Mr. Chairman.

And I have had a number of areas I would like to briefly touch on with Ambassador Brooks, but I would like to have your position to follow up with some additional written questions, if you and ambassador are amenable?

Mr. EVERETT. Without objection.

Mr. THORNBERRY. Mr. Ambassador, let me first compliment you on the testimony you submitted to the committee.

You gave us more detailed information, I think, than we have often received in the past and some of the things that we have had to ask for.

And so, I appreciate the broad range, but also the detail of the testimony you submitted to us.

I want to start asking about management.

Ms. Tauscher and I, among others, have been working on efforts to try to implement recommendations of a number of outside studies on management issues at NNSA.

You touched on the fact that back in December 2002 you announced reorganization of the field structure at NNSA.

And is it true that you will have eliminated essentially, one layer of management and reduced the number of personnel, at least in headquarters, if not administrative personnel, throughout by the end of this fiscal year, which will be September 2004.

My question is, "Is that working on schedule?" And is it working out the way that you had hoped it would when you announced it in December 2002?

Ambassador BROOKS. We have already reduced a layer of management.

We implemented that immediately and that is working well. We are on schedule to meet our reduction goals in both headquarters and the field.

If I gave you the specific numbers, it would look like we had already met them, but that masks some skill imbalances where there are a couple of areas in which we still have a little way to go and a couple of areas in which we are actually already understaffed and are doing some recruiting.

But we will meet our goals. I think, generally, I am pleased with the restructuring.

There are still occasional growing pains, but I have gotten magnificent support from the men and women who work for me.

We have clearly clarified authority and responsibility and we are seeing the benefits of that. We have clearly adapted the best practices of the three former operations offices, so we are seeing best practices.

And so, I would regard it as very much as I hoped when we implemented it in December.

Mr. THORNBERRY. Well, thank you.

As always, if you see provisions of the law that impede your ability to manage as you would like, then obviously those are things that we want to know about.

And, you know, we have talked about a couple of those.

Let me ask you about safeguarding securities. I saw an article in one of the papers this morning that basically said we have lowered the standards or guards or security at nuclear weapons installations.

A lot of these stories get recycled over and over again. I don't know if this is something old or something new. Are you familiar with this report?

Can you clarify it?

Ambassador BROOKS. I am. And it is something new.

It is a result of the Inspector General looking at protective force training. It is a report issued by the Inspector General within the last week.

The inspector general looked at a number of sites and found a number of issues. They vary in severity.

Inspector General found that we were not completely consistent in how we were using our core curriculum; that there were some specific things we were not doing that are still formally required,

like repelling; and that not all of the sites were submitting enough reports to let us monitor what was going on.

We don't necessarily disagree with the factual basis of the Inspector General's report; we would make a couple of points.

After September 11th we shifted to a protection strategy, while in the long term that strategy is going to be based on technology, in the short term it is based on putting more guys on watch.

The only way you put more guys on watch is to put them on overtime. And what you give up, to be perfectly frank, is training. I don't like that. The fix is to get more people.

This committee was very helpful in helping us to modify the law to allow the speeding up of the required security clearances, but nonetheless, that is one of the reasons for the findings in the Inspector General's report.

Another reason for the finding in the Inspector General's report, for example, on repelling the decision the Department made in 1995, because of injuries.

And the legitimate complaint is not that we are not doing it, but that we haven't updated our requirements to recognize that we made a decision not to do it. And we are going to work on that.

We are also, right now, we have gotten ahead in some cases in adapting the rules to specific sites, we have gotten ahead of the formal process, to be frank. And we are working on that.

It is a little complicated because of making sure that we are following the responsibilities of both the department's rule and my rules. And so what we did was we didn't wait for the paperwork in all cases.

I don't believe that the Inspector General's report should be taken as a reflection on the confidence or the dedication of the security force that is throughout the sites.

I do think it should be taken as indicating a need for the Office of Safeguards and Security and for me to make sure that we are meticulous in documenting what we are doing.

Mr. THORNBERRY. I appreciate it.

One thing you have said made me nervous. You just said that there was some, or I took it to mean that there was some difference in what the Department of Energy required and what NNSA required.

Ambassador BROOKS. No sir, I didn't mean to say that.

Mr. THORNBERRY. Okay.

Ambassador BROOKS. I meant to say that as we adapt specific sites to meet the unique conditions at those sites that we need to make sure that we are doing the paperwork correctly.

That was a paperwork comment, it wasn't a real comment. Particularly since the recent reorganization that Secretary Abraham announced in combining the offices of security and oversight under Mr. Podonsky.

There is no daylight between any part of DOE and any part of DOE on security.

Mr. THORNBERRY. I just wanted to make sure we still had that one chain of command that goes through you.

Ambassador BROOKS. We still have one and yes, sir, as you and I have had the opportunity to discuss it.

That is an extremely important point for me.

Mr. THORNBERRY. Me, too. Thank you.

At the headquarters level is there any effort to manage NNSA's relationship with Homeland Security or is that at a lab-by-lab basis, kind of, under the work for others-type work?

And do you see a need to have some different kind of oversight in the future, presumably, as more of that kind of work is done by the labs?

Ambassador BROOKS. There are a couple of things going on.

First, we have a relationship, in terms of emergency response.

Mr. THORNBERRY. Sure.

Ambassador BROOKS. And there is a relationship with Undersecretary Brown at the Department of Homeland Security. That relationship is generally working well.

It has been tested in exercises. And that is clearly a headquarters relationship.

The relationship at the laboratories is primarily dealt with at the laboratories.

As you recall, the theory was that the Department of Homeland Security was at an equal ability, so it wasn't exactly work for others because that was seen both as having a sense of relative priority and seen as cumbersome.

We are still working on a couple of details, but generally, I don't think there have been any coordination problems.

I don't mean to minimize the importance of the Department of Homeland Security, but they are still very much the tail, I am still very much the dog at these labs.

Mr. THORNBERRY. Sure. I just think the relationship, and as you said, the cooperation, is important and will be more so as we try to deal with these issues.

Thank you, Mr. Chairman.

Mr. EVERETT. Ms. Tauscher.

Ms. TAUSCHER. Thank you, Mr. Chairman.

Let me take a second to compliment you, Mr. Chairman.

These meetings always start on time and I appreciate you saving the best for last in your questioning and giving us extra time because these are very weighty issues and it takes a few minutes to get into them.

Secretary Roberson, it is always good to see you.

Secretary ROBERSON. Thank you. Same to you; very nice to see you.

Ms. TAUSCHER. Yes. And thank you for your continued hard work on those E.M. issues.

Always a tough time, it is always good to know that perhaps you might get some money, but you spend it wisely and you have a very, very good record and I appreciate your work at Livermore.

Ambassador, it is always good to see you.

I agree with my very good colleague, Congressman Thornberry, this is some of the best testimony that I have seen, period, but certainly the best from you.

And I really appreciate your clarification on your memo, issued a couple days after the Spratt-furse Ban was emanated.

And I have a number of issues that I want to talk about. I want to recognize the ever-able Dr. Beckner sitting behind you, who is always coming before us.

I have a number of constituents in the audience from one of the best labs in the world, the Livermore Lab. But I especially see George Miller.

In my office, I have a colleague named George Miller, who shares a county with me and when we say George Miller everybody looks at me and I always have to say, "The scientist, not the congressman."

And I fought to dispute the abilities of my colleague, George Miller.

But certainly the National Ignition Facility (NIF) is on my mind.

I want to talk briefly about and get some information from you. I know that we have had some slippage in the funding for the NIF and specifically on the issue of cryogenics and diagnostics.

And I am pleased to see that we are up four beams and warrant that we are the largest laser in the world.

But getting to 192 is going to take a little longer than I expected and I am concerned that we are not going to achieve ignition as quickly as we had hoped.

And I just want to get a sense from you, Ambassador Brooks, where we are on that and what that implies for the Stockpile Stewardship Program, our ability to maintain the credibility of the stockpile, all of the experiments that we know we want to do?

And if there are any risks that the NIF will not be able to quickly fulfill its mission?

Ambassador BROOKS. Thank you, madam.

We believe that we now have a technically acceptable plan that will result in the first ignition experiment in fiscal year 2010, which is what had been discussed in the past.

We are concerned that what led to the possibility of slippage was to make sure that we didn't make the best of the enemy of the good because there is a near-term stockpile stewardship.

I do want to make it clear ignition is very important, but there are things other than ignition in which the only way, short of nuclear testing, to gain knowledge about some of the conditions that exist in nuclear weapons is through NIF.

NIF is 80 percent complete; it is meeting its cost and schedule baselines and I believe it is exceptionally well managed now. It has a very impressive record, just as a construction facility, in terms of schedule, performance, and safety.

And I think that we are on track to be able to meet the goal of initial ignition experiments in 2010.

And we tend to keep paying a great deal of attention to that because it is the largest single stockpile stewardship project that we have.

Ms. TAUSCHER. Thank you.

This is the article from today's *Washington Post* about the security training issues. And I think that perhaps the biggest issue that I have about this is that the optics are just bad.

I think everybody is highly sensitized to the issue of the fact that neither plutonium nor highly enriched uranium exist en masse except for those that the governments create.

And you can find them in two places that we know of, one is power plants and the other is weapons labs in the complex.

And I think we are rightfully sensitized that the security of these things, not only is an imperative, but that there has to be a sense of peace of mind that the average American has that these facilities are always in people's highest priority.

And I think that the optics of this article are bad for us.

It makes it look as if we are more concerned about whether somebody may bump their elbow repelling off something in a training range, than we are actually making sure that the bad guys are deterred by the information that we are ready and we are going to take them down if they even think about it.

So, the kind of "don't even think about it" part is a test I think we have failed. And this leads me to my real question, which is about this issue of the counterintelligence area of NNSA being flapped back up to DOE.

And as you know, Congressman Thornberry and I jokingly call ourselves the parents of the NNSA, along with a few other people.

And we work very hard to create a semi-autonomous agency, dot-dot-dot, away from DOE, because of failures specifically in security, and not only real ones, but a sense of perception.

To flip counterintelligence back up to DOE is very troublesome for me. I want, and I think many of us believe that, resident capability in NNSA is a necessity and an imperative.

Not getting the facts, not getting FAX back and not getting a phone call, or just being in a food chain of information is not good enough.

And I think that I really need to know from you, since everything seems to be working fine with it resident in NNSA, what is the reason to flip it back over to DOE?

And how can we assure ourselves that we are not in the stovepipe mentality, going back in the stovepipe mentality that led to the failures of September 11th, with people not talking to each other, agencies having information, not disseminating it properly and people really feeling as if they are empowered with good information, that they are able to analyze and digest and collect and archive themselves?

Ambassador BROOKS. Yes, madam.

Let me once again give the analog to intelligence.

Good intelligence is crucial to any NNSA administrator, and yet, we have come to an acceptable approach where we didn't try to have my intelligence organization and a separate DOE intelligence organization.

We use the concept called shared staff.

It isn't double halving, because double halving is illegal, but it is people who provide support to both halves of the organization.

That is because it is basically a small number of people. That has proven to be inefficient.

We can tell that, that is not just our opinion by the looks of the Hamre Commission, which specifically recommended consolidation.

I met with Dr. Hamre, for whom I have a great deal of respect, to make sure that I fully understood the nuances in his written report and he supported the notion of consolidation in a single office reporting to the Secretary.

The national counterintelligence executive has examined this and supports the notion of consolidation in a single office reporting to the secretary.

And the reason they do is in fact, to avoid the risk of stovepiping, because counterintelligence, more than many things, works across the complex, I have in fact, the things that are most at risk, both secrets and material.

But if you look at the number of actual cases that get opened, the greatest bulk is not in my organization. And why is that?

It is not a question of relative competence, it is a question that the general science labs have much more access and interaction with foreigners, and therefore, much more opportunity.

And we believe that having a common, single organization will allow us to recognize both the plain facts about the numbers and the equally plain facts about where the importance is.

The legislation we have proposed to you is quite carefully drawn. I mean there are two issues here, frankly.

One issue is, is it a good idea to consolidate counterintelligence? And the other is does this violate the basic principles of a semi-autonomous agency?

And I am convinced that it does not.

It doesn't matter, right now, to be frank, with Secretary Abraham and Deputy Secretary McSlarrow, who are so consistently supportive of NNSA, but I have looked at it for a hypothetical future set of people and I think that the legislation has been very careful and it has been very carefully drawn.

I have considered the counterintelligence, and I don't think it will hurt NNSA at home.

Ms. TAUSCHER. Well, I will take a look at it. I just want to take one more second to thank you.

I wrote to you on March 8th, he replied on March 17th. That is the high-water mark for returning an answer. I won't hold you to that deadline, I know it is hard to achieve, but I appreciate you getting back so quickly.

And once again, thank you for your very hard work, both of you.

Thank you, Mr. Chairman.

Mr. EVERETT. Thank you.

Mr. Rogers.

Mr. ROGERS. Mr. Chairman, I don't have any questions or comments at this time, but would instead yield my time to you.

Mr. EVERETT. I appreciate that. Since Mr. Ryan has left, I think it is my time, so I should just go ahead and take the 10 minutes. But thank you very much.

Ambassador, I want to get on the record at this point that as far as our NIF is concerned, you can't bend metal, nor can you proceed without expressed okay of this Congress.

Ambassador BROOKS. That is correct, sir.

Mr. EVERETT. Okay. Thank you.

Ambassador BROOKS. And there is nobody in the Administration who hasn't heard about that.

Mr. EVERETT. I have a question here. It is a little long, so if you will forgive me, I am going to read it.

In 2000, U.S. and Russia agreed to pursue parallel paths to eliminate three or four tons of surplus weapons-grade plutonium in

each country. Plants are to be built in both Russia and the United States.

The Department of Energy is ready to commence construction of the U.S. parks facility at Savannah River Site in the summer of 2005; however, there is the lack of a liability agreement between the U.S. and Russia on construction work. The Russian Mixed-Oxide Fuel Fabrication Facility (MOX) potentially threatens moving forward with its progress.

Can you update the committee on where we stand with negotiations with Russia on this liability agreement?

And what stage will the likely progress in the negotiations drive a further delay in construction, or the start? What do you see as a solution for resolving this impasse?

Ambassador BROOKS. Yes, sir.

The United States has sought consistently the liability protection that the Russians agreed to in the agreement on comprehensive threat reduction program.

That agreement, although it sounds like it just applies to the Department of Defense programs, covers a number of my programs as well.

The agreement has not been ratified by the Russian Duma and we have been urging the Russian government to move forward.

The most recent developments are some confusion in Russia because of a fairly massive government reorganization.

And we continue to work with the Russian Federation to urge them to act promptly on that, which sets up the precedent for the liability agreement that we need to go forward with the Mox facility.

It is important to keep these two facilities in parallel because, while there is obviously an environmental stewardship reason why we ought to get rid of this material, we are principally trying to get rid of it in a particular fashion in order to induce the Russians to eliminate their own material.

Right now, I believe, that this is being worked at the highest levels of the U.S. Government and I believe there is a good chance for resolution in the relatively near future.

I must be candid with you, whenever you use the word, Russia and future, you are taking some risk, because they are not a particularly easy society to predict.

The impact of the government reorganization is not yet clear, but I believe that it is clear that we remain committed to getting the liability issue resolved and I don't now have any reason to believe that further delay in construction will be necessary.

We are extremely anxious to move forward on this program, which is obviously huge in the largest single, nonproliferation program in the United States.

Mr. EVERETT. At this time, I have a question about Libya, but since my colleague, Mr. Reyes, has been there, I would like to give him the rest of my time to ask that question.

Mr. REYES. I thank you, Mr. Chairman.

There have been two Congressional delegations that have gone into Libya, one in January and I recently went with the latest one and it was an incredible trip.

But my question is, since earlier this year, NNSA teamed up with the Departments of Defense and State to conduct a mission to Libya to secure nuclear materials.

What can you tell us of the plans for other such operations to secure nuclear materials in Libya?

And it is my understanding that there have been two loads that have come out.

Ambassador BROOKS. There have been.

There has been the initial material that was flown out and that is the material that much of it was displayed when Secretary Abraham took some journalists to the Y-12 facility, where we wanted to give people an opportunity to see just how much material had come out. That flight also included some actual nuclear material.

In addition, there has been a shipload of pretty much all the remaining material and that ship will arrive shortly. I would like, in an open session, not to be more specific.

And we think that everything that we care about in that area is now out.

In addition, we have a general program on research reactors and research reactors typically don't have very good byproducts because they are research reactors.

And so, there has been a U.S. program for both ones that we design and ones Russia design to convert them to use lower enriched uranium and then take the highly enriched fuel away.

We repatriated, working with the International Atomic Energy Agency (IAEA) and the Russian Federation, all the fresh fuel in Libya back to Russia and it is gone, about 14 kilograms as I recall.

And we are working with the Libyans on the conversion of this Russian-designed reactor so they can use lower fuel, which is not of proliferation concern. And that conversion remains to be done.

But pretty much everything that we want to get out is out.

Mr. REYES. I was wondering, as you were mentioning the Russian reactors.

I had an opportunity last year to go to, I believe it was one of the closed cities, Krasnoyarsk-26 and they had three reactors. They have shut down two and have kept one open.

Are those open—

Ambassador BROOKS. Those are production reactors.

There are three functioning production reactors in Russia: two at Sibirsk and one at Zheleznogorsk, which is the new name for Krasnoyarsk.

Mr. REYES. Yes.

Ambassador BROOKS. Our budget supports shutting down all three of those basically by funding replacement fossil fuel plants.

We focused first, not on the one in Krasnoyarsk, but on the two in Sibirsk, because it is twice as many. And we expect to have that plant shut down by 2008.

The one at Zheleznogorsk we expect to have shut down in 2011.

We took this program over about a year ago from the Department of Defense.

We have now gotten an integrating contractor and we are in the process of sort of working with the Russians to move from view graphs to real plans. And I am confident we will meet those dates.

Those three plutonium production reactors are very important in that they produce collectively about 1.2 tons of plutonium a year, sort of think in rough terms of a bomb a day.

And so, we are eager to get them shut down. And I am confident that we will do that.

Mr. REYES. And perhaps you can't comment on in an open session, but are there any plans to engage any of the former Iraqi scientists?

Ambassador BROOKS. There is a plan, which is actually run by the Department of State, although we are helping to engage former Iraqi weapon scientists in Iran.

It is not a classification issue; it is an issue of what I remember, so I wonder if I could provide you some information on that for the record, sir?

Mr. REYES. That would be perfectly fine.

And thank you very much.

Ambassador BROOKS. It may be a classification issue, but I know there is unclassified stuff that I don't remember. Let me provide you an answer for the record.

[The information referred to can be found in the Appendix beginning on page 135.]

Mr. REYES. Okay. Thank you.

Thank you, Mr. Chairman, that is all I have.

Mr. EVERETT. Thank you.

I will say to the committee: would anyone else like a go at the Ambassador or the Secretary?

One more question?

Ms. TAUSCHER. Thank you, Mr. Chairman.

Ambassador, if we could talk a little bit, there is a dovetailing about the long-awaited stockpile plan; pit facility eight and the amount of money that was cut last year by Water (House Energy & Water Development Appropriations Subcommittee).

The fact that we are looking for, I don't know, \$370 billion, I guess, in the end we build these pits.

It seems to me that the nuclear stockpile, it is hard to understand exactly how we are going to size the stockpiles. It is difficult to predict how many kits you are going to need.

Ambassador BROOKS. Yes, madam, that was—

Ms. TAUSCHER. You can't predict how big a facility you need until you determine the demand. And I think what we really need to know is when can we expect the stockpile plan?

And in the end, isn't it really about how many kits are retired?

Ambassador BROOKS. It is a little bit, madam. But, let me make a couple of points.

First: the logic you have just set forth, as I understand is exactly the logic that your colleagues down in Energy and Water used in requesting that we not make any further decisions.

In an open session let me use just a little fuzzy math. All right?

We are going to build this thing sometime around 2020. We stopped producing weapons somewhere in the 30 years before that. So, the youngest weapon is going to be 30 years old.

We don't know precisely how frequently we are going to have to redo pits. The technical estimates run from 45 to 60 years.

So that means when this facility starts it is going to have to turn over the entire stockpile somewhere between 15 years and 30 years, because you are starting with another cycle.

Then after that, it has to turn it over at a 45 to 60 year rate. The lower level that we are analyzing the environmental impact statements 125 pits a year.

You multiply 125 by either 15 years or 30 years and you get a number, unless you believe that we are certain that the total U.S. stockpile in 2020 will be less than those numbers, then we are going to need something of the minimum capacity that we are analyzing in the environmental impact plan.

So, I understand the importance of having a coherent stockpile plan, but it is less closely coupled to the design of the facility than you might think, simply because you are going to have to turn everything over in this compressed time.

That said, the question is, when are we going to do what the Congress told us to do by 1 February of this year. And I must tell you, I don't know.

This fundamental question of military requirements, and therefore, not fundamentally a Department of Energy responsibility, all were involved and it has beamed up worked with the seriousness that it deserves, though not perhaps with the speed that you would like.

And so, I am very reluctant to mislead the Congress. We are committed to doing this right.

We are committed to submitting it to the Congress at the earliest possible moment and we understand very clearly that there are some things we are not allowed to do until we do that.

But I am very reluctant to give the committee a precise date for a report that is fundamentally the responsibility of another department.

Ms. TAUSCHER. Mr. Chairman, can I make a suggestion?

Mr. EVERETT. Can I stop you?

Please speak.

Ms. TAUSCHER. No.

I think the issue of aging of the stockpile, which we are learning more about all the time has a lot to do with eventually the kind of metrics that we will use to make a decision on, not only the stockpile, but the pit facility.

I happen to be one that believes we have to test in 18 months and I am pleased to see that we have an agreement to make that investment.

It is a hedge as you said earlier to make sure that we don't open a box of weapons and have that, "Uh oh," moment.

I also believe we need to have the resident capability on pits.

We have to get this right and I think that there are many of us on this committee, and many of us in Congress, that are happy to work with you to get the energy and water folks to get the right number, so that we are not flipping ourselves and putting a noose around our neck.

So, I think perhaps, Mr. Chairman, if we could, think about having a classified briefing with Ambassador Brooks on this issue.

Knowing that you don't know the number on the stockpile plan, but giving us the background in a classified setting on exactly the

aging issues so that we actually have some ability to argue for and what we may end up having to advocate for.

Ambassador BROOKS. And that is obviously a chairman's call, but we would be delighted.

As you and I have discussed before, I believe we have a better case than we have articulated and we welcome the chance to try and articulate it in both the classified and the unclassified forum.

Ms. TAUSCHER. Thank you, Mr. Chairman.

Mr. EVERETT. To answer my colleague's question, yes, we can have that, and we will put it on the schedule in addition to some space stuff that this committee needs to take up in closed session, also.

Ms. TAUSCHER. That would be great, Mr. Chairman.

Thank you.

Mr. EVERETT. Let me say to Mr. Ambassador, I appreciate you being here.

Secretary Roberson, thank you for your excellent testimony. And also Dr. Beckner and Secretary Rood, I appreciate your participation last week in our closed session.

And I am pleased in this committee; I thank them making sure that most of our questions were unclassified in nature. We will have some classified hearings later.

The subcommittee is adjourned.

[Whereupon, at 11:19 a.m., the subcommittee was adjourned.]

A P P E N D I X

MARCH 18, 2004

PREPARED STATEMENTS SUBMITTED FOR THE RECORD

MARCH 18, 2004

**Opening Statement
The Honorable Terry Everett
Chairman, Strategic Forces Subcommittee**

***Hearing on the Department of Energy's Fiscal Year 2005
Budget Request for Atomic Energy Defense Activities***

March 18, 2004

The hearing will come to order.

The Strategic Forces Subcommittee meets today to receive testimony on the Department of Energy's fiscal year 2005 budget request for Atomic Energy Defense Activities. I want to apologize in advance for these somewhat crowded quarters today – a HASC schedule change required us to shift locations.

I welcome Ambassador Linton Brooks, Administrator of the National Nuclear Security Administration, and the Honorable Jesse H. Roberson, Assistant Secretary for Environmental Management at the Department of Energy.

Ambassador Brooks will cover the NNSA budget request for fiscal year 2005. The NNSA request is for just over 9 billion dollars and consists of funding for Weapons Activities, Defense Nuclear Nonproliferation, Naval Reactors and the Office of the Administrator. Assistant Secretary Roberson will provide testimony on the Department of Energy's request for defense environmental management – she will tell us about the progress the Department is making in accelerating the schedule and reducing the cost of clean-up at numerous sites around the country. The Environmental Management budget request is for over \$7 billion.

We have a lot of ground to cover today, and I want to allow each of our members as great an opportunity as possible to ask questions, so I will be brief. Likewise, I would ask our witnesses to please be brief with their prepared remarks – the entirety of your written testimony will be entered into the record. Last week, this subcommittee met in closed session to

discuss issues associated with nuclear weapons including Advanced Concepts and the Robust Nuclear Earth Penetrator. This session, in contrast, is open under rule 9 of the Committee. I would ask members for their cooperation in keeping their line of questioning unclassified. Questions of a classified nature should be submitted as written questions for the record following appropriate procedures.

Ambassador Brooks, I know you have challenges – restoring capabilities within a defense nuclear complex that was largely built over 50 years ago, continuing to support certification of the nuclear stockpile without testing, and implementing additional security measures to counter the new Design Basis Threat. While we understand that the Department of Defense is in the final stages of completing its Strategic Capabilities Assessment to review the future size of the nuclear stockpile, we can expect nuclear weapons to remain

a cornerstone of our national security posture for the foreseeable future.

Our science-based approach to stewardship is critical to the difficult technical challenge of verifying the safety and effectiveness of our nuclear arsenal in the absence of testing. As the number and variety of weapons in the stockpile come down, it is more important than ever to maintain confidence in those weapons remaining through our science and engineering campaigns. I look forward to your assessment of where we are with our stockpile today, and where we are headed in the future.

Assistant Secretary Roberson has the monumental task of cleaning up a Cold War legacy of 114 contaminated sites resulting from more than half a century of R&D, production, and testing of nuclear weapons. The magnitude of the problem is apparent when one considers that over 40 percent of the funds requested for atomic energy defense activities – 7.7

billion dollars – support this undertaking. The Department's Environmental Management team has undertaken a commendable but daunting challenge to both accelerate site cleanups and reduce costs.

As recently as two years ago, the life cycle cost estimate for cleanup of legacy sites stood at 220 billion dollars, ...with work at some of our most contaminated sites not reaching completion until 2070. In fiscal year 2003, the Department embarked on an aggressive reform effort to refocus emphasis from risk management to real risk reduction. The current plan calls for completion of all remediation efforts by 2035, at a cost savings of more than 50 billion dollars. I look forward to hearing of your progress across the complex.

Let me now recognize my good friend and colleague, Mr. Reyes, the ranking member of the subcommittee. Mr Reyes...

[Following Mr. Reyes' remarks]

[Recognize Mr. Hunter and/or Mr Skelton if present]

Ambassador Brooks, the floor is yours.

[Following Ambassador Brooks' testimony]

Thank you Ambassador Brooks. Assistant Secretary Roberson, the floor is now yours.

[Following Assistant Secretary Roberson's testimony]

Thank you Secretary Roberson.

[Proceed with Q&A].

Thank you all for taking the time to be with us today. Your statements and comments will be very helpful as we consider the Administration's budget request.

The hearing stands adjourned.

**Opening Statement
Honorable Silvestre Reyes
Hearing on the National Nuclear Security Administration
And Department of Energy's Environmental Management
Programs
Subcommittee on Strategic Forces
House Armed Services Committee
March 18, 2004**

Thank you, Mr. Chairman, and I join you in welcoming our distinguished witnesses before our subcommittee today.

Ambassador Linton Brooks, the Administrator of the NNSA, oversees a budget of almost \$8.7 billion in 2004, and is requesting a little over \$9 billion for 2005. The Assistant Secretary for Environmental Management at the Department of Energy, Jesse Roberson, oversees a budget of more than \$7 billion that falls within the jurisdiction of this committee. NNSA is responsible for maintaining our nuclear deterrent and a key player in reducing the spread of nuclear weapons and materials. Secretary Roberson has the formidable task of

managing the clean up of millions of gallons and hundreds of tons of highly radioactive waste throughout the country.

While these programs tend to get overshadowed by the programs of the Department of Defense that fall within our committee's jurisdiction, these are critical programs, and the dollars are significant, even by DoD standards. I thank the Chairman, my friend and colleague, Mr. Everett, for holding today's hearing, because these programs and the issues they involve are too important for us to overlook.

Ambassador Brooks, you met with me a few weeks ago, and we discussed the difficulties of getting reports required to Congress delivered on time. I know you are trying not only to get us the reports that are due to Congress this year, but put in place the institutional mechanisms that will make future reports more timely. I commend you for this effort, but do want to let you know that we are still anxiously awaiting

several key reports, including the Revised Nuclear Weapons Stockpile plan, the annual certification of the safety and reliability of the nuclear arsenal, and the report on the affect of the repeal of the Spratt-Furse ban on so-called “mini-nukes” on our nonproliferation efforts. I hope you can use this public reminder as leverage in your dealing with other agencies to speed up the process.

In deference to the Chairman’s desire to limit opening statements, I will keep the rest of my opening remarks brief. But I do hope that our witnesses will address in their opening statements several topics I consider to be particularly important:

- Why is the NNSA putting a placeholder for the Robust Nuclear Earth Penetrator in its outyear budgets;
- What are the goals of the Advanced Concepts program, especially in regard to low-yield weapons?

- **How are we accelerating cleanup at our contaminated sites without compromising cleanup standards?**
- **What impact will the recent court decision on waste incidental to reprocessing have on our cleanup programs?**

I look forward to the testimony of our witnesses, Mr. Chairman, and I yield back the balance of my time.

Statement of Jessie H. Roberson
Assistant Secretary for Environmental Management
U. S. Department of Energy
before the
Subcommittee on Strategic Forces
Committee on Armed Services
U.S. House of Representatives
March 18, 2004

Mr. Chairman and Members of the Subcommittee, I am delighted to be here today to convey the Department's appreciation for your support of the Environmental Management (EM) program, without which the dramatic results in accelerating the clean up of the legacy of the Cold War would not be possible. I welcome this opportunity to sit before you and report on our progress, the potential gains and risks that lie before us, and the importance of sustaining the momentum that our workforce has labored so hard to achieve-- a momentum that benefits the vibrancy of our communities and the environment.

Two eventful years have passed since the release of the Top-to-Bottom Review of the EM program. In these last two years, we have taken decisive steps to transform a program focused on managing risk to a core mission-focused program that is accelerating risk reduction and clean up. We have introduced dynamic reforms, delivering fundamental change and achieving significant improvements in health, safety, and environmental protection. With your support and these reforms fully ingrained in our operations and business processes, we are demonstrating that this bold strategy to accelerate risk reduction and cleanup has made a historic contribution to reducing the financial liability associated with the legacy of the Cold War. As cited in the *U.S. Department of Treasury 2002 Financial Report to the United States Government*, "the recognized cost of cleaning up environmental damage/contamination across government programs was estimated to be \$273.0 billion, as compared to \$306.8 billion for September 30, 2001. A significant component of this reduction relates to the Department of Energy. It reduced its environmental liability by \$28.7 billion, mostly due to employing an accelerated cleanup approach resulting from a top-to-bottom review to find efficient and cost-effective ways to achieve greater real cleanup and risk reduction to public health." But that is not the whole story.

Last year, I indicated to the Congress that I was not "satisfied" with our progress. We must continue to better our performance and to look beyond the status quo to achieve results that are truly groundbreaking for the benefit of the generations that follow us. I challenged our workforce, our partners, and myself and all those interested in joining us in our vision of accelerated cleanup to put their most innovative ideas and people forward. I am proud to announce that with our combined efforts, our objective of accelerating environmental clean up and risk reduction by 35 years and reducing estimated program costs in excess of \$50 billion has become a reality. With your support and our continued keen focus on the cleanup and closure, the momentum can continue.

For fiscal year 2005, the President's Budget includes a record \$7.43 billion for the accelerated cleanup program, the peak year in our funding profile. As we identified last year, the Administration believes that this investment is crucial to the success of accelerated risk reduction and cleanup completion. We anticipate funding will then decline significantly to about \$5 billion in 2008.

The EM portion of the fiscal year 2005 Congressional budget is structured analogous to last year. The budget structure focuses on completion, accountability, and visibility; institutionalizes our values; and integrates performance and budget. Requested funding can clearly be associated with direct cleanup activities versus other indirect EM activities.

Within the Defense Site Acceleration Completion Appropriation, the budget reserves \$350 million for a High-Level Waste Proposal. With the Idaho District Court decision on Waste Incidental to Reprocessing, the Department's ability to proceed prudently with accelerated risk reduction for some activities is drawn into question. The decision makes it difficult, if not impossible, for us to undertake planned actions at Idaho, Hanford and Savannah River Site to aggressively reduce risks posed by wastes stored in tanks at those sites – actions we had committed to take, in agreement with our host states, before the court decision. The decision now means we are likely to leave tank wastes in place longer while we try to resolve issues created by the decision – a course that has significant societal and monetary costs. This \$350 million supports activities normally funded from the 2012 Accelerated Completions account and from the 2035 Accelerated Completions. These funds will be requested only if the legal uncertainties are satisfactorily resolved.

In alignment with ongoing Departmental missions, this budget reflects a transfer of multiple activities that are not core to the EM mission to other Departmental elements. These transfers provide the responsible and accountable mission programs with the resources and tools to achieve their objectives at the expected performance level. This accountability model is the key to moving each of the enterprises or missions of the Department forward in attaining the desired outcomes and results important to the Administration and supporting our accelerated risk reduction and closure initiative. Transfers include:

- Transferring federal staff at the Pacific Northwest National Laboratory to the Office of Science and federal staff at Headquarters to the Office of the Chief Information Office.
- Transferring the EM portion of the Offsite Source Recovery Program to the National Nuclear Security Administration.
- Transferring spent fuel storage responsibilities at Idaho National Laboratory, the Foreign Research Reactor Spent Fuel Program, management of NRC-licensed spent fuel, and the National Nuclear Spent Fuel Program to the Office of Civilian Radioactive Waste Management.
- Transferring Formerly Utilized Sites Remedial Action Project records management, responsibility for cost liability and recovery reviews, and Environmental Justice and the Massie Chairs of Excellence Program to the Office of Legacy Management (LM).

We will also be transferring sites, as they are completed, either to the landlord or to LM. The latter will occur if the site has no further DOE mission. EM is working with LM to ensure smooth site closure and transition by:

- Ensuring that site baselines identify functions and elements beyond contract closure to meet all internal requirements;

- Conducting assessments of site readiness for transfer and closure in tandem with LM;

- Having joint teams at each site (Rocky Flats has 2 LM employees) and supported by HQ LM personnel who were once EM personnel and EM personnel at sites are transferring to LM positions;

- Holding quarterly meetings between EM and LM senior management to address key issues and make decisions;

- Developing a communication plan defining roles and responsibilities between EM and LM staff.

The Administration considers this budget request a critical step on the accelerated risk reduction and cleanup path. Without these resources, we could face higher risk to the environment and the public and lose the momentum we have gained in changing the paradigm. With your support, we have the opportunity to succeed in producing historic results that will last for many years to come.

DEMONSTRATING RESULTS

With the October 2003 release of the Report to Congress on the Status of Implementation of the Top to Bottom Review, we have demonstrated that the direction we took two years ago is showing real results. I wish to take a moment and expound the impacts of the far-reaching accomplishments that are underpinning the developing momentum of the program.

Improved Safety Performance

We believe in order to accomplish our accelerated risk reduction and clean up mission, we must continue to do work safely. We are committed to instilling this philosophy in every worker's day-to-day decisions from start to finish of every project. To that end, with top-quality safety standards, we are demonstrating that we can accelerate work and improve safety performance at the same time. For example in August 2001, EM's Total Reportable Cases (TRC) and Lost Workday Cases (LWC) were 1.9 and 0.8 respectively, per 100 workers (TRC and LWC are standard tools used to measure safety performance). In September 2003, we had reduced our TRC to 1.2 and LWC to 0.5. These rates are significantly better than private industry, which OSHA reported in 2002, had a TRC of 5.3 and LWC of 1.6. The construction industry alone had rates of 7.1 for TRC and 2.8 for LWC in 2002. We have not nor will we stop paying attention to safety. We will continue to "raise the bar" and hold ourselves accountable to the highest standards. Complacency is not acceptable in our advance to the safe conclusion of our clean up objectives.

Cleanup Results and Risk Reduction

Prior to the Top to Bottom Review, EM had lost focus of the core mission, the mission that the program was established to solve---address the environmental legacy of the Nation's Cold War nuclear weapons research and production. With a program responsible for the management of millions of gallons of liquid radioactive waste and thousands of tons of spent nuclear fuel, the unhurried pace of cleanup and risk reduction was unacceptable. If immediate actions were not taken the risks associated with the EM program would continue to grow to unpardonable levels.

Last year set a new floor of performance not seen before in the history of the program. Our investment has born amazing results. For example: three spent nuclear fuel basins were de-inventoried at Idaho National Laboratory, along with two at the Savannah River Site and one at Hanford. And in regard to Hanford, we have removed 70% of the spent nuclear fuel from the K-Basins. These basins located less than a quarter of a mile from the Columbia River have the potential to leak and cause costly environmental harm both to the health of the river and the public--this is a significant gain in risk reduction. Another example is at Rocky Flats. This site, once responsible for nuclear triggers, has shipped all plutonium off site and closed the last remaining material access area. These visible, risk reducing results that have demonstrated our ability to accelerate schedule and reduce life cycle cost while showing to our public and surrounding communities the Department's commitment to improve worker safety, reduce health risks and eliminate environmental hazards.

So you may have a better comprehension of the magnitude of our cleanup results, I would like to insert for the record a copy of our recent corporate performance measures. EM's Performance Measures is a compilation of the program's sixteen complex wide performance measures. As you can see, we can deliver significant risk reduction and cleanup and, as I stated earlier, in combination with improved safety performance. Accelerating risk reduction and cleanup, in concert with exceptional safety performance, accomplishes consequential outcomes important to the public, our communities, and for the generations that follow us.

Innovations in Ideas, Processes, and Practices

Two years ago, the Top-to-Bottom Review described the EM program as lacking a project completion mindset, internal processes were inconsistent with a risk-based cleanup approach, and the hazards at the DOE sites and the liability associated with them did not appear to dictate the need for urgency in the cleanup decisions. The Top-to-Bottom Review team emphasized that the EM mission cannot be accomplished by continuing business as usual. Innovative actions in all elements of the EM program would need to be taken to transform DOE's processes and operations to reflect the new accelerated risk-based cleanup paradigm.

To foster innovation, we identified ideas and processes from successful projects that had delivered accelerated results and conveyed the information across the EM program. For example, at Rocky Flats, we drew from their experience in project planning and delivery along with technology advancements. Sharing the innovative practices allowed for similar outcomes at other sites. If I may take a moment to share a few ideas and practices:

- a) Establish a clear end-state vision and risk-based cleanup levels in conjunction with specific future land/site use and in consultation with regulators, stakeholders, and affected and interested governments.
- b) A "best-in-class" management team is recruited and sustained with the result of team focus and retention of key staff.
- c) Senior management emphasis is placed on key safety issues of keeping workers working, minimizing the risk of possible high-impact events, quick recovery after accidents, safety "pauses" as appropriate, and improved safety training.
- d) Projects are managed in an environment that provides significant incentives for real cost savings.
- e) New and innovative equipment and methods are being used for size reduction (e.g. plasma cutting torch, engineered enclosures, water-jet cutting of components), significantly improving safety and effectiveness.
- f) Improved decontamination techniques coupled with new radiation instrumentation.

We continue to encourage innovation in our processes and practices to further enhance safety performance, accelerate risk reduction, reduce health impacts, and save resources to be reinvested in furthering the priorities of each of the sites.

Acquisitions Driving Performance

Tying all these accomplishments together has been our continued drive to improve performance from our new acquisition strategy. These accomplishments serve as indicators of the level of performance we are expecting from our contractors now as well as into the future. When we reviewed our contracts over the past year—as you may remember I said we formed a Contract Management Advisory Board last year--- we identified a short list of significant findings that did not prove advantageous to the overall success of the program. We concluded that DOE tends to manage the contractor not the contract, that project baselines needed improvement along with project management and the associated reporting, incentives for meaningful risk reduction were lacking, more emphasis was needed on cost-efficient performance, and there seemed to be insufficient competition and small business participation.

To address these weaknesses, we have instituted three business models that we believe will vastly improve our acquisition process and opportunities for success. Our reform strategy is to accelerate the reduction of risk from the legacy of the Cold War safely and efficiently and at a cost savings for the taxpayer. One model focuses on improving incumbent contractor's performance, while another aims to increase competition and small business participation. The third concentrates on the establishment of national Indefinite Delivery/Indefinite Quantity (IDIQ) contracts for remediation and decontamination and decommissioning. All three are on the fast track. In fact, in September, as a first step we announced the selection of five 8(a) businesses that will perform work at our small sites across the country. And in fiscal 2004, we have six new contracts---two at Paducah, two at Portsmouth, one at the Fast Flux Test Facility at Hanford, and one at the Idaho National Laboratory along with the IDIQ contracts that will be competed. We expect these new contracts will challenge the contractor community, a challenge that is healthy for all involved.

We Have Our Challenges Too

As we continue to challenge the status quo, we may be confronted with legal actions and court decisions that will direct us to alter or modify our activities from the accelerated cleanup and closure path. We will continue to work diligently with all concerned parties to avoid interruptions in reducing risk and advancing cleanup for the public.

We expect to be challenged on our delivery of Government Funded Services and Items, or GFSI. We are accountable on delivery of GFSI and we expect to be held to our commitments.

Also, we have challenged our managers at all levels to stay true to our commitment and employ our corporate performance measures as an accountability and success gauge assessing our progress as well as a tool that alerts us when management action or intervention is warranted.

THE FY 2005 BUDGET REQUEST

The FY 2004 budget was the first budget that fully reflected the initiatives undertaken by the Administration to transform and revitalize the cleanup of the former weapons complex. The EM program has been refined and fortified with management reforms, which have led to accelerated risk reduction and a decrease in life-cycle costs surpassing previous expectations. The investment we have requested in our FY 2005 budget will contribute to EM's continued success in achieving its mission of accelerated risk reduction and site closure.

The EM FY 2005 budget request represents the peak year of our investment strategy to accelerate cleanup and reduce risk. This budget fully reflects each site's accelerated risk reduction and cleanup strategy. The FY 2005 budget request is pivotal to keep the momentum going and to achieve even greater risk reduction and cost savings than ever before.

The 2005 budget request for EM activities totals \$7.43 billion to accelerate risk reduction and closure. The request includes five appropriations, three of which fund on-the-ground, core mission work, and two of which serve as support. The five appropriations and associated requested funding are:

- Defense Site Acceleration Completion (\$ 5.97 billion)
- Defense Environmental Services (\$ 982 million)
- Non-Defense Site Acceleration (\$ 152 million)
- Non-Defense Environmental Services (\$ 291 million)
- Uranium Enrichment Decontamination and Decommissioning Fund (\$ 500 million)

Within the Defense Site Acceleration Completion Appropriation, \$ 350 million is tied to the Idaho District Court decision on Waste Incidental to Reprocessing. These funds will only be requested upon satisfactory resolution of the recent court decision that affected the Department's plans for some waste streams.

In building the request, the Department applied the following principles and priorities:

Protect workers, public, and the environment: The budget request continues to place the highest priority on protecting workers, the public, and the environment. The implementation of EM's cleanup strategies allows for an overall improvement in safety and reduction in risk because cleanup will be completed sooner, reducing the extent to which workers, the public, and the environment have the potential to be exposed. Over the past two years, dramatic improvements in safety performance have been demonstrated.

Ensure the appropriate levels of safeguards and security: Due to heightened security levels throughout the nation, it is crucial that we maintain vigilance in our domestic security to protect our citizens. The EM program is responsible for many tons of surplus nuclear material. This budget request reflects our increased safeguards and security needs, including the new Design Basis Threat requirements. Overall, the budget has decreased from FY2004 because we have been able to consolidate materials into fewer, more secure locations, and we have reduced the footprint of secure areas. The sites with the largest remaining funding needs are the Savannah River Site and Hanford. Savannah River Site's funding supports the security of nuclear materials, maintenance of uniformed protective force personnel, information security and operations security for the protection of classified and sensitive information, cyber security for the protection of classified and unclassified computer security, and personnel security. Hanford's funding supports security for shipment of special nuclear materials and elimination of one Material Access Area within the Plutonium Finishing Plant, enhancement of cyber security, Hanford site security clearances and other security activities.

Accelerate risk reduction: Accelerated risk reduction requires a pragmatic approach to cleanup. Risk reduction occurs in various stages, which involve the elimination, prevention, or mitigation of risk. Because safe disposal of many materials will take a number of years to complete, our major focus of risk reduction is stabilization of high-risk materials.

The following categories of materials are considered to pose the highest risk:

- High-curve, long-lived isotope liquid waste
- Special nuclear materials
- Liquid transuranic waste in tanks
- Sodium bearing liquid waste in tanks
- Deteriorating spent nuclear fuel in leaky or poor integrity basins
- Remote-handled transuranic waste and high transuranic content waste
- Transuranic waste stored on the surface
- Decommissioning of highly-contaminated facilities

Although all of these items are to be considered when setting priorities, their relative ranking may vary from site to site. Risk reduction is a major consideration in the development of the site baselines. Examples of planned activities/milestones for FY 2005 that correspond to site-specific risk categories are:

Hanford

- Complete cleanout of K East and K West basins (fuel, sludge, debris, and water)

- The K basins are located less than 1,000 feet from the Columbia River. This project involves packaging and removing degrading spent nuclear fuel and radioactive sludge, debris, and water from wet storage in the K Basins to safe, dry interim storage away from the Columbia River. The K Basin facilities are well past their design lives and are a major threat to the environment due to the potential for basin leakage to the surrounding soil and the Columbia River. Their cleanout will prevent potential leakage of 55 million curies of radioactivity to the soil and the River and will decrease the risks posed by the basins to human health and the environment.
- *Complete transfer of nuclear material to the Savannah River Site or DOE approved interim storage facility, and complete legacy holdup removal and packaging/disposition of material/waste.*
 - The Plutonium Finishing Plant (PFP) consists of several buildings that were used for defense production of plutonium nitrates, oxides and metal from 1950 through 1989. Completion of the transfer of the stabilized materials and legacy holdup material from PFP allows the cleanout and demolition of these facilities to slab on grade. It results in a reduced National security threat by consolidating nuclear materials into fewer locations.
- *Ship all above-ground transuranic waste to the Waste Isolation Pilot Plant.*
 - Hanford has several thousand containers of previously generated transuranic waste in above-ground storage buildings. Characterization and shipment of this waste to the Waste Isolation Pilot Project for final disposal will reduce the risks to facility workers as well as reduce the safeguard and security vulnerability associated with this waste. This action represents final disposal of this waste in an environmentally protective repository.
- *Complete installation of In Situ Redox Manipulation Barrier in the 100-D Area.*
 - Chromium-contaminated groundwater is reaching the Columbia River in the 100-D Area. The contamination levels are above 20 times the aquatic life water standard, and the area is adjacent to potential salmon spawning locations. To address this, a series of wells will be drilled and a chemical that detoxifies chromium will be deposited into the matrix in which the groundwater travels to the river. As a result, the groundwater reaching the Columbia River will once again meet the aquatic water standards, thereby protecting human health and the salmon population in the River.
- *Initiate waste retrieval from eleven single-shelled tanks.*
 - Radioactive liquid waste stored in older single-shelled tanks has the potential of leaking and contaminating soil and groundwater that flows to the Columbia River, presenting a risk to human health and the environment. Waste will be retrieved from the single-shelled tanks and moved to safer double-shelled tanks.

Idaho

- *Disposition 34 containers of special nuclear material containing uranium, completing 75 percent of shipments offsite; initiate transfer of spent nuclear fuel from CPP-666 wet storage to the Irradiated Fuel Storage Facility; and maintain a running average of 2,000 cubic meters per year of TRU waste shipped out of Idaho*

- Idaho sits over a major sole source aquifer, the Snake River Plain Aquifer, which is used to supply water to the people of southeastern Idaho as well as irrigation water for the significant agricultural activities. These actions will reduce the potential risk to human health by preventing the migration of contamination into the aquifer. It also will reduce the national security threat by consolidating materials into fewer locations.

Paducah

- *Disposition 875 cubic meters of low-level/mixed low-level legacy waste, allowing for a 37 percent completion of work.*
 - The packaging and disposal of low-level waste stored outdoors will reduce the waste inventory and eliminate the potential release into the environment that could result from deterioration of the storage drums. Outside storage of this material in some cases leads to additional surface water and soil contamination. Removal of these materials further reduces the continued exposure to workers performing surveillance and maintenance
- *Disposition 12,400 tons of scrap metal.*
 - Scrap metal is a suspected source of continued surface water and possible soil contamination. This action contributes to the continued source term removal of contaminants leaching into the environment. Reduction in the massive quantities of scrap metal continues to improve the potential safety concern to our workers.
- *Continue decontamination and decommissioning of C-410 complex.*
 - The C-410 Complex is a large chemical complex in a shutdown condition. Removal of contaminated materials and equipment reduces potential risk to onsite workers and represents a key step in stabilizing the facility such that contaminants are prevented from release to the environment.

Portsmouth

- *Disposition 9,089 cubic meters of legacy waste.*
 - The continued shipment and disposal of legacy waste will proportionally reduce the risk such wastes present to the health and safety of workers and reduce the on-going potential for release to the environment.
- *Process approximately 42 million gallons of water through Groundwater Pump and Treat facilities.*
 - Plume control keeps contaminants from reaching surface streams and off-site drinking water supplies. Trichloroethylene (TCE), which was an industrial solvent, is the main groundwater contaminant at the site.

Pantex Plant

- *Complete Zone 11 soil vapor extraction for removal of contamination from the vadose zone and protection of the groundwater.*
 - Removing the soil gas contamination will avoid potential migration to a fresh water supply, thereby reducing the risk posed to human health and the environment

- *Complete Burning Grounds landfills interim corrective measure (engineered covers) to secure wastes and protect groundwater*
 - The covers will mitigate the vertical transport of contaminants, which will reduce the potential impact to the fresh water supply.
- *Complete demolition of Zone 10 Ruins.*
 - The Zone 10 ruins have suspected high explosives contaminants in the numerous disintegrating structures. Removal of high explosive will avoid further contamination of soils, and demolition of the ruins will reduce safety risks to persons in the area.
- *Complete decontamination and decommissioning of Building 12-24 Complex.*
 - There is evidence that this complex contributed to the high explosives plume that migrated to the southeast and off-site. Decontamination of the 12-24 Complex will mitigate the migration of this plume.

Oak Ridge

- *Complete East Chestnut Ridge Waste Pile Closure.*
 - Risks associated with industrial safety will be reduced by eliminating the need to excavate and transport the material to treatment subsequent to disposal.
- *Complete disposition of legacy low-level waste.*

Approximately 40 percent of the low-level waste was stored outdoors in deteriorating containers. Disposition of this waste will decrease the risks associated with their potential environmental release.
- *Complete processing and stabilization of transuranic waste tanks.*
 - This action will eliminate the potential for the waste's migration to groundwater.
- *Initiate contact-handled transuranic waste processing at the Waste Processing Facility.*
 - This waste is stored in above grade-storage trenches and in earthen trenches. Processing the waste prevents the risk of release to the environment and a continued cost of waste storage and monitoring.
- *Complete treatment of liquid low-level waste supernate at the Waste Processing Facility and disposal of the dried supernate product at the Nevada Test Site.*
 - Treatment and disposal of the supernate decreases the risks posed by these highly radioactive fission products.
- *Complete Atomic City Auto Parts.*
 - This action will reduce the risks posed to workers and the surrounding community from uranium and polychlorinated biphenyls contamination in the soil.

Savannah River Site

- *Begin processing neptunium solutions.*

- SRS has approximately 6,000 liters of Neptunium-237 nitrate solution in H-Canyon. Through processing, the neptunium solutions are converted into a more stable form, and the risks they pose to human health and the environment are reduced.
- *Complete bulk waste removal in Tank 5.*
 - Tank 5 is one of 49 underground tanks currently used to store radioactive liquid waste at the Savannah River Site. This waste represents one of the highest risk to human health and the environment. Current plans call for the removal of the waste from Tank 5 for treatment, stabilization and disposal. A new approach, the Waste-On-Wheels (WOW) system, will be utilized to remove the waste from Tank 5 and other tanks. The Waste-On-Wheels is a portable method of performing bulk sludge waste removal from the tanks. The WOW system will reduce the project schedule for waste removal and therefore reduce the risk to human health and the environment imposed by the highly radioactive waste.
- *Complete decommissioning of seven industrial and radioactive facilities.*
 - Decommissioning excess radioactive facilities will reduce the footprint of the site, and therefore collectively reduces risk to the worker by eliminating the need to enter the facilities to perform required, routine surveillance and maintenance activities. Risk of worker exposures while performing these activities is eliminated. Decommissioning excess radioactive facilities also eliminates the potential environmental and human health risk of accidental releases from these facilities. Decommissioning industrial facilities eliminates the risk to workers associated with having to maintain old facilities which are no longer needed but which require regular inspections or maintenance activities, such as roof work.

Lawrence Livermore National Laboratory-Livermore Site

- *Construct, install, and operate a portable treatment unit at Treatment Facility D Hotspot, Treatment Facility E Hotspot, the northern portion of the East Traffic Circle Source Area, and the Treatment Facility 406 Hotspot area.*
 - These actions will further prevent the release of trichloroethylene (TCE), thereby reducing risks to the public from exposure to contaminated groundwater.
- *Remove contaminated surface soil and contaminated sandpile at Building 850.*
 - These actions will mitigate risk to onsite workers, and will prevent further impacts to groundwater above health-based standards.
- *Construct, install, and operate groundwater extraction and treatment facility.*
 - Remediation of the high-explosive process area is a high priority due to the offsite migration of contaminant plumes, current impacts to onsite water-supply wells, and the inhalation risk to onsite workers. These actions will impede the migration of plumes, protecting offsite water-supply wells from contamination.

Maintain closure schedules: Three major sites, Rocky Flats, Fernald, and Mound, have accelerated closure schedules. In addition, two smaller sites, Ashtabula and Battelle-Columbus

are scheduled to close in 2006. Funding in the FY 2005 budget will allow these sites to remain on track toward project completion and site closure.

At Rocky Flats, FY 2005 funding provides for:

- *Completing site deinventory of legacy low-level/mixed low-level and transuranic waste to off-site disposal; completing remediation of 30 release sites.*
 - During FY 2005, Rocky Flats will be approaching completion of their commitment to closure and conversion of the Rocky Flats site for future beneficial use. The buildings where plutonium and other hazardous materials were used in support of the nuclear weapons deterrent will be under various stages of demolition, the final quantities of radioactive wastes will be removed from the site, and the grounds will be receiving the necessary remediation action. These actions, when complete, will allow the Department of Energy to release the site to the U.S. Fish and Wildlife Service to become the Rocky Flats Wildlife Refuge with little or no further risk to human health or the environment.

At Fernald, FY 2005 funding provides for:

- *Completing decontamination and dismantlement of the Waste Pits Complex and the East Warehouse Complex, and completion of waste pits remedial action operations.*
 - Completing the Waste Pit Remediation Project will result in over one million tons of waste pit material having been transported off-site via rail for safe, compliant disposal and the D&D of the treatment facility and other waste pit infrastructures. Completing these activities represents a substantial risk reduction to human health and the environment for the entire Fernald Closure Project site. This remediation activity is being conducted in an extremely safe manner considering the industrial hazards involved.
- *Completing Silos 1 and 2 operations, including removal of waste material, and beginning disposition of the waste for off-site disposal.*
 - Silos 1 and 2 Extraction and Treatment Operations represent the greatest risk to human health and the environment at the Fernald Closure Project. Silos 1 and 2 contain the highest levels of radiological activity residing in any waste stream at the site. The Silos 1 and 2 project constitute the Site Closure Critical Path. Their successful completion is a prerequisite for a timely and safe closure.
- *Completing construction of the On-Site Disposal Facility Cell 3 and Cell 4 caps.*
 - Capping Cells of the On-Site Disposal Facility (OSDF) will insure the reduction in risk to human health and the environment during post closure. Overall, the OSDF will be composed of 8 cells, containing 2.5 million cubic yards of waste soil and debris. The OSDF has been designed and engineered to possess a 5-foot thick liner and a 9-foot thick cap. The OSDF has a design life of 1000 years.

At Mound, FY 2005 funding provides for:

- *Completing remediation of 37 potential release sites (65 percent of remaining), including the restoration of potential release site (PRS) 66.*
 - Completing the PRSs in FY2005 decreases risk by preventing any further radioactive contamination from migrating into clean soil areas and ground water, by reducing

potential exposure to site workers and other personnel located on site, and by precluding any potential environmental impacts to off site areas.

At Ashtabula, FY 2005 funding provides for:

- *Completing remediation of the Waste Management Unit.*
 - Remediating the Waste Management Unit significantly reduces the remaining risks of organic and inorganic chemical exposure to both soil and groundwater at the RMI site.

At Battelle-Columbus, FY 2005 funding provides for:

- *Completing decontamination/stabilization of the fuel storage pool and transfer canal and the high-bay area surfaces in JN-1.*
 - Removing this source term will reduce the risk of contamination, both internal and external, to the workers during building de-construction. Removal of the source term would also reduce risk to off-site areas and members of the general public.

Integrate technology development and deployment: An integrated technology development and deployment program is an essential element for successful completion of the EM cleanup effort and for fulfilling post-closure requirements. The EM Technology Development and Deployment (TDD) program provides technical solutions and alternative technologies to assist with accelerated cleanup of the DOE complex.

EM technology development and deployment investments are focused on high-payoff site closure and remediation problems through a two pronged approach: Closure Projects and Alternative Projects.

Closure Projects: Principal near term closure sites (such as Rocky Flats, Fernald and Mound) will be provided with technical support and quick response, highly focused technology development and deployment projects. The goal is to ensure that accelerated site closure schedules are achieved.

- At Rocky Flats closure site, technical assistance teams will assess critical technical issues and provide technology alternatives including the treatment and disposition of orphaned waste streams and improved methods of beryllium decontamination.
- At Mound, innovative technologies will be developed to determine and enable treatment of radioactive contaminated soil beneath buildings.
- At Fernald, the vacuum thermal desorption demonstration will be completed to provide a technical solution for an orphaned waste stream, and technical support to the Silos # 1, 2, and 3 waste removal and disposition will be successfully completed.
- At Oak Ridge, delineation of contamination and definition of treatment feasibility for subsurface contamination will be completed.

Alternative Projects: Alternative approaches and step improvements to current high-risk/high cost baseline remediation projects are our second focus. The goal is to enable cleanup to be accomplished safely, at less cost, and on an accelerated schedule. EM is focusing funds for FY 2005 on:

- Alternatives For Tank Waste Pretreatment and Immobilization (Hanford Site, Office of River Protection);
- Alternatives for Carbon Tetrachloride Source Term Location (Hanford Site, Richland);
- Alternatives for Disposition of High-Level Salt Waste (Savannah River Site);
- Alternatives for Remediation of Chlorinated Ethenes using Monitored Natural Attenuation (Savannah River Site);
- Alternatives for Deposit Characterization and Removal at Gaseous Diffusion Plants (Portsmouth);
- Alternatives for In situ Transuranic Waste Delineation and Removal (Hanford Site, Richland)
- Alternatives for Non-Destructive Assay and Examination of Large Transuranic Waste Containers (Savannah River Site/Carlsbad)

CONCLUSION

This year has seen dramatic results demonstrating our steadfast belief that continuing on the accelerated path will provide the direction and framework to resolve the problems that lie before us. As with all new enterprises that seek to challenge the status quo, impediments will be encountered. We must not lose our momentum that has so earnestly been established through collaboration and a singular focus of delivering meaningful results for the American public.

We are committed to employ our resources to show meaningful results and we are taking a very staunch view of results. The job is not done until it is done. We cannot be complacent, we must continue to do better. It is not done when we develop a plan---it is not done when we agree to a milestone---it is not done when we ask for funding ---it is not done when we sign a contract ---it is not done when we get money. It is not done until it's done and there is positive and measurable risk reduction for the investment.

The only measure of success will be positive, measurable accomplishments of public safety and environmental protection. The longer we wait, the greater the potential risk. We must not lessen our commitment to the American people to do the "right thing". I ask for your support to continue this important work. We must avoid losing the opportunity to rid this legacy from our children's inheritance. We are safer today than we were last year and we must stay the course so we are safer next year than today. We have accelerated cleanup by at least 35 years reducing lifecycle cost over \$50 billion. The potential is there to lose what we have gained should we fail to stay true to our commitments.

I look forward to working with Congress and others to achieve this worthy goal. I will be happy to answer questions.

EM's
Complex Wide Performance Measures*

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Performance Measure	Unit	FY 2003 Target	FY2003 Actual	FY2004 Target	FY2005 Target	Actual Lifecycle Through FY2003	Lifecycle Scope
Pu packaged for long-term disposition	# Cont	2,836	3,065	1,323	165	4,549	5,850
eU packaged for disposition	# Cont	277	201	925	669	2,054	9,101
Pu/U residues packaged for disposition	kg Bulk	934	1,140	254	76	107,659	107,782
DU & U packaged for disposition	MT	1,815	4,551	0	0	7,651	742,149
Liquid Waste eliminated	gallons (1000s)	700	0	1,300	1,900	0	88,000
Liquid Waste Tanks closed	# Tanks	1	0	9	9	2	241
HLW packaged for disposition	# Cont	130	115	250	250	1,727	18,735
SNF packaged for disposition	MTHM	857	807	633	1	1,446	2,420
TRU disposed	m3	4,522	6,372	12,952	13,678	14,092	141,314
LL/LLMW disposed	m3	75,030	118,362	89,815	107,067	402,568	1,155,360
MAAs eliminated	# MAA's		1	1	1	6	14
Nuclear Facility Completions	# Facs	2	4	5	14	21	523
Radioactive Facility Completions	# Facs	7	24	45	67	148	804
Industrial Facility Completions	# Facs	49	107	110	187	617	2,423
Geographic Sites Eliminated	Sites	2	1	0	2	76	114
Remediation Complete	# Rel Sites	214	260	200	283	5,188	10,374

*Each of EM's 16 corporate performance measures is quantitative and focuses on those materials, wastes, environmental media, and facilities that comprise the majority of the risk to environment, public health, and safety. When these measures are completed, the EM program has accomplished its mission. Each measure is tracked in the context of the total life-cycle on 2035 accelerated schedule. The corporate performance measures are under strict configuration control, thereby establishing performance expectations and accountability. Through strict configuration control, EM is able to make crucial corporate decisions that will keep the program on track, monitor and control costs, and manage site closure expectations.

Consistent with Rev 8 (2/17/04)

1 of 1

**Statement of Ambassador Linton F. Brooks
Under Secretary for Nuclear Security and Administrator,
National Nuclear Security Administration
U.S. Department of Energy
Before the
Subcommittee on Strategic Forces
Committee on Armed Services
U.S. House of Representatives
March 18, 2004**

Thank you for the opportunity to discuss the FY 2005 Budget Request for the National Nuclear Security Administration (NNSA). This is my second appearance before this Committee as the Under Secretary for Nuclear Security, and I want to thank all of the Members for their strong support for our important national security responsibilities.

OVERVIEW

The NNSA has four fundamental and unique responsibilities for U.S. national security:

- Stewardship of the Nation's nuclear weapons stockpile
- Reducing the threat posed by the proliferation of weapons of mass destruction
- Providing reliable and safe propulsion for the U.S. Navy
- Management of the national nuclear security complex, which includes both security for our facilities and materials to protect our employees and our neighbors, and sustaining the facilities infrastructure.

In the fourth year of this Administration, with the strong support of the Congress, the NNSA programs have achieved a level of stability that is required for accomplishing our long-term missions. As the post-Cold War era evolves, the NNSA is managing the Nation's nuclear

warheads according to the guidance in the Nuclear Posture Review. The Department of Energy (DOE), through the NNSA, works to assure that the Nation's nuclear weapons stockpile remains safe, secure, reliable, and ready, and to extend the life of that stockpile in support of Department of Defense (DOD) military requirements. Our Nation will continue to benefit from the security that results from an effective nuclear deterrent, with confidence that the nuclear weapons complex is ready and prepared to respond rapidly and effectively if required.

Stockpile Stewardship activities are carried out without the use of underground nuclear testing, continuing the moratorium initiated by the U.S. in 1992. I am pleased with the continuing ability of the Stockpile Stewardship Program to certify to the President, through the Annual Certification Assessment Report, the safety, security, and reliability of our nuclear weapons stockpile using science-based judgments using cutting edge scientific and engineering tools as well as extensive laboratory and flight tests. We are gaining a more complete understanding of the stockpile each year. Computer codes and platforms developed by our Advanced Simulation and Computing (ASCI) program are now used routinely to address three-dimensional issues in weapons performance, contributing to continuing certification, baseline studies, as well as supporting the upcoming refurbishment workload.

The NNSA maintains a robust infrastructure of people, programs, and facilities to provide specialized scientific and technical capability for stewardship of the nuclear weapons

stockpile. This past year, Los Alamos National Laboratory manufactured the first certifiable W88 pit since the closure of Rocky Flats in 1989. Los Alamos remains on-track to certify a war reserve W88 pit by 2007. Also, in the past year, we began the irradiation of Tritium Producing Burnable Absorber Rods in a TVA reactor, restoring a key nuclear manufacturing technology. We also continue our facilities recapitalization effort. There is a notable improvement across the nuclear weapons complex, and NNSA is delivering on our promise to the Congress to stabilize our deferred maintenance in FY 2005.

The Nation continues to benefit from advances in science, technology and engineering fostered by the national security program activities, including cutting edge research and development carried out in partnership with many of the Nation's colleges, universities, small businesses and minority educational institutions. The University of Rochester's Omega laser is a key facility in NNSA's Inertial Confinement Fusion program. It provides experimental capability for Stockpile Stewardship as well as a user facility for training tomorrow's scientists and engineers. Overall, the NNSA programs, including three national laboratories, the Nevada Test Site, and the production facilities across the U.S. employ nearly 2,300 Federal employees and approximately 35,000 contractor employees to carry out this work.

In June 2002, the United States championed a new, comprehensive nonproliferation effort known as the Global Partnership. World leaders committed to raise up to \$20 billion over 10 years to fund nonproliferation programs in the former Soviet Union. The NNSA contributes directly to this effort by carrying out programs with the international community to reduce and

prevent the proliferation of nuclear weapons, materials and expertise. The security of our Nation and the world are enhanced by NNSA's ongoing work to provide security upgrades for military and civilian nuclear sites and enhanced border security in Russia and the Former Soviet Union. In the past year, we have completed comprehensive materials protection control and accountability upgrades at 17 Russian nuclear facilities, and began efforts to install security upgrades at vulnerable Russian Federation Strategic Rocket Forces sites. With the support of the Congress, we are implementing an aggressive Megaports initiative to enhance global nuclear material detection at 15 major seaports shipping large volumes of container traffic to the U.S. We are reducing the world's stocks of dangerous materials such as plutonium through NNSA-sponsored Fissile Materials Disposition programs in the U.S. and Russia as well as through elimination of Russian plutonium production.

The Nation benefits from NNSA's work in partnership with the Department of Homeland Security to develop and demonstrate new detection technologies to improve security of our cities. Perhaps the most tangible benefits to the Nation following the 9/11 terrorist attacks are the "first responder teams" of highly specialized scientists and technical personnel from the NNSA sites who are deployed across the Nation to address threats of weapons of mass destruction. These teams work under the direction of the Department of Homeland Security and the Federal Bureau of Investigation to respond to nuclear emergencies in the U. S. and around the world. In the past year, these teams have provided support to such diverse groups and locations as New York City, Operation Iraqi Freedom, Olympic Planning in Athens, and the Government of Thailand. Our teams have participated in major training and

exercise events in the United States and overseas. They have developed new capabilities, including *Triage*, that enables our first responders to rapidly determine if an item of interest includes special nuclear material in yield-producing quantities.

The NNSA also works in partnership with the DOD to meet their needs for reliable and militarily effective nuclear propulsion for the U.S. Navy. In the past year, the Naval Reactors Program has completed 99 percent of the reactor plant design for the VIRGINIA-class submarine, and supported "safe steaming" of another two million miles by our nuclear-powered ships. They have continued their unsurpassed record of "clean up as you go", including remediating to "green grass" the former S1C prototype Site at Windsor, Connecticut, and completing a successful demonstration of the interim naval spent fuel dry storage capability in Idaho.

NNSA BUDGET SUMMARY

(dollars in millions)

	FY 2003 Comparable Appropriation	FY 2004 Original Appropriation	FY 2004 Adjustments	FY 2004 Comparable Appropriation	FY 2005 Request
Office of the Administrator	330	340	- 3	337	334
Weapons Activities.....	5,961	6,273	- 39	6,234	6,568
Defense Nuclear Nonproliferation.....	1,224	1,328	+ 6	1,334	1,349
Naval Reactors.....	702	766	- 4	762	798
Total, NNSA	8,217	8,707	- 40	8,667	9,049

The FY 2005 budget request totals \$9.0 billion, an increase of \$382 million or 4.4 percent. We are managing our program activities within a disciplined five-year budget and planning envelope. We are doing it successfully enough to be able to address emerging new priorities and provide for needed funding increases in some of our programs within an overall modest growth rate – notably Safeguards and Security, Nuclear Weapons Incident Response, and Facilities and Infrastructure Recapitalization – by reallocating from other activities and projects that are concluded or winding down.

The NNSA budget justification contains the required three years of budget and performance information, as well as similar information for five years as required by Sec. 3253 of the NNSA Act, as amended (Title XXXII of the National Defense Authorization Act for Fiscal Year 2000, Public Law 106-65, 50 U.S.C. 2453). This section, entitled *Future-Years Nuclear Security Program*, requires NNSA to provide to Congress each year at the time the budget is submitted the estimated expenditures necessary to support the programs, projects and activities of the NNSA for a five fiscal year period, in a level of detail comparable to that contained in the budget. Since the inception of NNSA, the Future Years Nuclear Security Program (FYNSP) has been provided as a separate document supporting the budget request. Starting with this budget, NNSA will meet this statutory requirement by including outyear budget and performance information as part of a fully integrated budget submission.

Future Years Nuclear Security Program (FYNSP)

(dollars in millions)						
	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	Total
Office of the Administrator.....	334	340	347	353	360	1,734
Weapons Activities.....	6,568	6,881	7,216	7,353	7,492	35,510
Defense Nuclear Nonproliferation	1,349	1,381	1,410	1,441	1,465	7,046
Naval Reactors.....	798	803	818	834	850	4,103
Total, NNSA.....	9,049	9,405	9,791	9,981	10,167	48,393

BUDGET AND PROGRAM HIGHLIGHTS

There are three areas of the NNSA budget where mission priorities require us to request significant increases in funding for FY 2005.

Safeguards and Security/Design Basis Threat

Protecting NNSA people, information, materials, and infrastructure from harm or compromise is one of our most serious responsibilities and highest priorities. The FY 2005 budget request for NNSA's Safeguards and Security Program is \$706.9 million, an increase of 21 percent over the FY 2004 enacted level, that is needed to implement a new Design Basis Threat (DBT) at all NNSA sites and facilities. The Secretary of Energy issued the new DST in May 2003, as a result of a post-September 11th analysis of the threats against which we must protect DOE sites and materials across the country. Implementation plans based on vulnerability assessments for each of the sites are in final preparation. These will delineate the upgrades and associated costs plan to upgrade service weaponry, extend explosive

impact zones, consolidate nuclear material, and make additional improvements of a classified nature to bring NNSA facilities into full compliance with the new DBT by the year 2006. The FY 2005 NNSA budget includes \$107.9 million (\$89.6 in Safeguards and Security and \$18.3 million in Secure Transportation Asset) to address the new DBT. NNSA will shortly submit a request for FY 2004 reprogramming and appropriation transfer to allow this important work to continue on schedule. The FY 2006 funding request for DBT implementation will be addressed during this spring's programming process.

In recent months we have had some highly publicized occurrences at some NNSA sites. In each instance, NNSA and DOE have taken immediate and aggressive actions to address these occurrences and to ensure that any potential vulnerability is mitigated as soon as possible and that longer term fixes are put into place as appropriate. Because of these problems, we have chartered two external review groups to provide an independent assessment of our management of security. While I am confident that there has been no compromise of classified material and that no nuclear material is at risk, I believe security can and should be improved. The Secretary and I have both made it clear that we will not tolerate any reduction, perceived or real, in our protective force readiness or in our ability to protect the complex. Funding for Safeguards and Security in NNSA has increased over 70 percent during this Administration, which is strong indicator of the priority we place on this responsibility. The Secretary and I join together in making it well known that we will not tolerate any reduction, perceived or real, in our protective forces and our abilities to protect the complex.

Facilities and Infrastructure Recapitalization

The Facilities and Infrastructure Recapitalization Program (FIRP) is essential to NNSA's ability to maintain a responsive robust infrastructure. I am pleased to note that its mission and performance is commended in the recent preliminary assessment by the National Research Council on DOE's facility management. The FY 2005 budget request for FIRP is \$316.2 million. This increase follows a two-year period of flat funding. The request restores the program to our previously requested FYNSP levels; it places the program back on our previously planned schedule and reflects our commitment to fulfill the direction of the Congress to end the program by 2011.

Nuclear Weapons Incident Response

The third growth area in the FY 2005 budget request is the Nuclear Weapons Incident Response Programs. The FY 2005 request of \$99.2 million reflects an increase of 11 percent over the FY 2004 level, recognizing the greatly increased number of deployments of these assets within the United States and abroad. The long term sizing of this effort in terms of dollars and people continues to evolve along with its critical role in homeland security. We have relocated this account separately within the Weapons Activities appropriation to provide additional visibility into these programs and funding request.

At this time, I would like to focus on the remainder of the President's budget request for NNSA Weapons Activities including Defense Programs, Defense Nuclear Nonproliferation, Naval Reactors, and the Office of the Administrator accounts.

Weapons Activities

The FY 2005 budget request for the programs funded within the Weapons Activities appropriation is \$6.568 billion, an increase of 5.4 percent over FY 2004 due largely to the increase in security and facilities infrastructure. Within Weapons Activities, the budget structure has been changed in response to Congressional concerns to align Directed Stockpile Work funding with individual weapon systems, and to highlight Nuclear Weapon Incident Response as a separate line.

The Nuclear Posture Review (NPR) guidance directed that NNSA maintain a research and development and manufacturing base that ensures the long-term effectiveness of the Nation's stockpile; and, support the facilities and infrastructure that are responsive to new or emerging threats. The NPR also directed NNSA to begin a modest effort to examine concepts that could be deployed to further enhance the deterrent capabilities of the stockpile in response to the national security challenges of the 21st century.

The United States is continuing work to refurbish and extend the life of the B61, W76 and W80 warheads in the stockpile. Within the FY 2005 request of \$1.4 billion for Directed Stockpile Work (DSW), funding for the life extension programs increases by seven percent to \$477.4 million. This reflects the expected ramp up in the three systems with First Production Units scheduled in FY 2006-2009, and the completion of life extension activities for the W87. In FY 2005, DSW funding will support research and development of advanced weapon concepts to meet emerging DOD needs that will enhance the nuclear deterrent, and to

ensure a robust and capable NNSA for the Future. The NPR highlighted the importance of pursuing advanced concepts work to ensure that the weapons complex can provide nuclear deterrence for decades to come. In FY 2005, \$9.0 million is requested to support the modest research and development effort in the Advanced Concepts Initiatives (ACI) to meet emerging DOD needs and to train the next generation of nuclear weapons scientists and engineers. The Robust Nuclear Earth Penetrator (RNEP) is the most mature concept being studied in this program. Funds for the RNEP study are included in the FY 2005 budget as a separate line item from the rest of the advanced concepts study activity. A request for \$27.6 million is also included for the continuing RNEP feasibility, design definition and cost study. The RNEP study was requested by the Nuclear Weapons Council in January 2002.

The RNEP study is to determine whether either of two existing warheads – the B61 or the B83 – can be adapted without resuming nuclear testing to improve our ability to hold at risk hardened, deeply buried facilities that may be important to a future adversary. The request for advanced concepts funding is to investigate new ideas, not necessarily new weapons. For example, we are currently examining the feasibility of adapting an existing weapons carrier and existing nuclear warheads to achieve a delivery system with greater assurance that the intended nuclear mission could not be compromised by either component failure or adversary attack, thus giving greater reliability for nuclear missions. Appropriate uses for additional work in advanced concepts might include examining the feasibility of warheads with improved design margins, easier manufacturing, greater longevity and

improved safety. Any of these ideas would only be pursued for future development if directed to do so by the President and the Congress.

Progress in other parts of the Stockpile Stewardship Program continues. The FY 2005 request for Campaigns is \$2.4 billion, essentially level with FY 2004. This request funds a variety of Campaigns, experimental facilities and activities that continue to enhance NNSA's confidence in moving to "science-based" judgments for stockpile stewardship, and provide cutting edge technologies for stockpile certification and maintenance.

While there is no reason to doubt the ability of the Stockpile Stewardship Program to continue to ensure the safety, security, and reliability of the nuclear deterrent, the Nation must maintain the ability to carry out a nuclear weapons test in the event of some currently unforeseen problems that cannot be resolved by other means. Within the guidance provided by the Congress, we are beginning to improve our readiness posture from the current ability to test within 24 to 36 months to an ability to test within approximately 18 months. The FY 2005 budget request of \$30 million supports achieving an 18-month readiness by September 2005. But let me be clear, there are no plans to test.

National Ignition Facility at Lawrence Livermore National Laboratory (LLNL) remains on budget and schedule. The FY 2005 request of \$130.0 million continues construction installation and commissioning of laser beams. Once complete in 2008, the 192-laser beam

facility will be capable of achieving temperatures and pressures found only on the surface of the sun and in exploding nuclear weapons. We are anticipating the first Stockpile Stewardship experiments in 2004 using four laser beams. As a result of recent technical advances in capsule design, target fabrication and computer simulations, we expect to begin the fusion ignition campaign in FY 2009 with a goal of achieving fusion ignition in FY 2010. The Advanced Simulation and Computing Campaign request for FY 2005 is \$741.3 million, an increase of nearly three percent over FY 2004. Working with IBM and Cray Research, the program expects delivery of Red Storm in FY 2004 and Purple in FY 2005. These will be the world's fastest machines, operating at 40 and 100 Teraops, respectively, and they will continue to revolutionize supercomputer capabilities and three-dimensional modeling. Having these machines on-line will begin to redress the capacity and capability issues raised in the September 2003 JASONs report required by the Congress.

The NPR recognized a need, over the long run, for a Modern Pit Facility (MPF) to support the pit manufacturing needs of the entire stockpile. NNSA's FY 2005 request for the Pit Manufacturing Campaign is \$336.5 million, an increase of 13 percent over FY 2004, but with some changes since the last budget request. We delayed the final environmental impact statement (EIS) for the MPF in order to address Congressional concerns that it is premature to pursue further decisions on an MPF at this time. The decision to delay the final EIS also delays identification of a preferred site for constructing the MPF.

This decision will in no way affect the W88 pit manufacturing and recertification program underway at Los Alamos, which is reestablishing the technological base to manufacture pits and which thereby will inform many of the technology decisions which will be contained in the eventual MPF design.

Readiness Campaigns are requested at \$280.1 million in FY 2005, a decrease of about 14 percent. The decrease is attributable mainly to continuing progress in construction of the Tritium Extraction Facility that is funded within this account.

NNSA's Readiness in Technical Base and Facilities activities operate and maintain current facilities and ensure the long-term vitality of the NNSA complex through a multi-year program of infrastructure construction. About \$1.5 billion is requested for these efforts, a slight decrease from FY 2004 that is attributable to a 20 percent decline in funding needed to support line-item construction project schedules. Three new construction starts are requested.

In FY 2005 the President's budget provides a total of \$201.3 million for the Office of Secure Transportation, which is responsible for meeting the Department's transportation requirements for nuclear weapons, components, special nuclear materials and waste shipments.

The remainder of the Weapons Activities appropriation funding is for Nuclear Weapons Incident Response, Facilities and Infrastructure Recapitalization, and Safeguards and Security, discussed earlier in this statement.

DEFENSE NUCLEAR NONPROLIFERATION

The Defense Nuclear Nonproliferation Program works to prevent the spread of nuclear weapons and materials to terrorist organizations and rogue states. The Administration is requesting \$1.35 billion to support activities to reduce the global weapons of mass destruction proliferation threat, about a one percent increase over comparable FY 2004 activities. This reflects a leveling off of growth in these important programs that have increased over 60 percent in the past four years.

Given recent threats to the United States, it has become increasingly clear that protecting and securing nuclear materials and detecting nuclear and radioactive material at foreign ports, airports, and border crossings is a very high priority. The Administration's leadership in the Global Partnership is one way that we are trying to address these issues. The FY 2005 request for programs supporting the Partnership is \$439 million. This includes an FY 2005 request of \$238 million for the International Nuclear Material Protection and Cooperation (MPC&A) Program, which supports Second Line of Defense activities and the Mega-ports Program. The Mega-ports Program was jump-started with \$99 million appropriated in FY 2003. Progress is continuing, and with the \$15 million requested in FY 2005, we will have work underway or complete at 9 of the 15 planned international ports. The \$15 million in FY

2005 is requested to train law enforcement officials and equip key international ports with radiation detection equipment to detect, deter, and interdict illicit trafficking of nuclear and other radioactive materials. We are scheduled to complete work at ports in Greece and the Netherlands by the summer of 2004. We have made a number of security improvements to Nuclear Navy sites in Russia and we are now focusing resources on securing Strategic Rocket Forces sites. In addition to this work, we are also pursuing a dialogue with countries we believe are of particular concern. We hope that these activities will lead to broader MPC&A cooperation in the coming years.

The largest activity funded by this appropriation is the Fissile Materials Disposition program. We are working to design and build facilities to dispose of inventories of surplus U.S. weapons-grade plutonium and highly-enriched uranium, and supporting concurrent efforts in Russia to obtain reciprocal disposition of similar materials.

One of the key obstacles encountered this year is a disagreement with Russia regarding liability protection for plutonium disposition work performed in that country. This has resulted in a ten-month delay in the planned start of construction of a MOX Facility in Russia as well as a similar facility in the United States. The liability issue is being worked at high levels of the Administration. The President's FY 2005 budget request seeks \$649 million for this program to begin construction of both the U.S. and Russian MOX facilities in May 2005, as we work to resolve the liability issue by this spring. Our outyear funding profiles reflect the Administration's full commitment for proceeding with plutonium disposition.

Not only are we pursuing the disposition of weapons-grade plutonium but also we are working hard to stop more from being produced. NNSA has assumed the responsibility from the DOD for shutting down the last three plutonium production reactors in Russia and replacing them with fossil fuel plants by 2008 and 2011. This will result in the cessation of the annual production of 1.2 metric tons of weapons-grade plutonium. Under the Elimination of Weapons-Grade Plutonium Production Program, we have selected the Washington Group International and Raytheon Technical Services to provide oversight for Russian contractors who will actually be performing the work. The FY 2005 request for this effort is \$50.1 million.

In FY 2005, NNSA assumes responsibility for the Off-site Source Recovery Project from the Office of Environmental Management. The requested program funding is \$5.6 million, with a projected cost of about \$40 million over the next five years to substantially reduce the risk of these source materials being used for radiological dispersion devices. The program works closely with the U.S. Nuclear Regulatory Commission to prioritize source recovery.

The Russian reactor safety efforts under the International Nuclear Safety Program were completed successfully in 2003. The remaining \$4 million for emergency management and cooperation efforts was shifted to the Nonproliferation and International Security Program. These funds provide for the orderly shutdown of the BN 350 reactor in Kazakhstan (\$1.5 million) and continue activities to strengthen international emergency cooperation and communications (\$2.5 million). The Accelerated Materials Disposition initiative was not

supported by the Congress in FY 2004 and in consideration of overall NNSA priorities, is not requested in the FY 2005 budget or outyears.

NAVAL REACTORS

The NNSA is requesting \$798 million for the Naval Reactors Program in FY 2005, an increase of about 4 percent. This program continues to be a prime example of how to manage unforgiving and complex technology. The Naval Reactors Program provides safe and reliable nuclear reactors to power the Navy's warships. It is responsible for all naval nuclear propulsion work, beginning with technology development, through reactor operations, and ultimately to reactor plant disposal. The budget increase will support 70 percent completion of the design of the next generation nuclear reactor on an aircraft carrier, and continue work on the Transformational Technology Core, which will deliver a significant energy increase to future submarines, resulting in greater operational ability and flexibility. The request includes \$6.2 million for a new construction start, the Materials Development Facility Building, in Schenectady, NY. The TTC facility is estimated at \$20.4 million, and it is expected to be completed in 2008.

OFFICE OF THE ADMINISTRATOR

NNSA is in the final implementation phase of a re-engineering effort that follows the principles of the President's Management Agenda to modernize, integrate, and streamline operations. As a result, at the end of FY 2004, NNSA will achieve its goal of a 15 percent reduction in federal personnel since FY 2002. It is likely that the Congress will receive a

request for reprogramming in FY 2004 to fund the remainder of these realignment and reengineering activities.

The FY 2005 budget request of \$333.7 million is about 1 percent below the FY 2004 appropriation. This reflects cost avoidance due to reduction of about 300 positions since 2002, and no further request for incremental funding needed to accomplish re-engineering in NNSA HQ and field organizations. The budget request assumes that personnel reductions are achieved, restructuring finished, and associated employee transfers are complete at the end of FY 2004.

The Defense Nuclear Nonproliferation (NN) and Nuclear Weapons Incident Response programs have been excluded from staff reductions due to increased program requirements in those areas. NNSA is not requesting a separate funding control for the Office of Defense Nuclear Nonproliferation because it is no longer necessary to assure that Federal hiring goals are met for these activities that are experiencing rapid mission growth. Based on hiring to date in FY 2004, it is projected that this organization will meet or exceed its managed staffing plan goal of 244 by FY 2005. A single funding control for the appropriation is necessary to facilitate NNSA's corporate efforts to rebalance the NN 's office transition from reliance on support service contractors to permanent Federal staff.

MANAGEMENT ISSUES

I would like to conclude by discussing some of NNSA's management challenges and successes. We are all aware of the management difficulties that beset the weapons

laboratories last year. The contractors and NNSA/DOE have made many changes to the laboratories' management and reporting/oversight requirements in response to the problems.

Soon their contracts are coming up for renewal. Secretary Abraham has outlined the Department's strategy for competing the Management and Operating contracts for our nuclear design labs in accordance with Section 301 of the Energy and Water Development Appropriations Act, FY 2004 (Public Law 108-137). On April 30, 2003, the Secretary announced that we intend to compete the Los Alamos National Laboratory contract on a full and open basis to have a contract in place by September 30, 2005, when the old contract expires.

On January 21, 2004, the Secretary reiterated his decision concerning Los Alamos National Laboratory. At that time, he also announced his decision to compete the Lawrence Livermore National Laboratory contract, as well as three other DOE laboratories, but indicated that the precise timing and form of these competitions were under consideration.

NNSA, with the concurrence of the Secretary, is establishing a Source Evaluation Board (SEB) for the Los Alamos competition. I have named Tyler Przybylek as the Chairman of that SEB and he is in the process of identifying members and advisers to the SEB. We see no obstacle to meeting the Secretary's schedule for competing and awarding a new contract or managing Los Alamos.

On the "success" side, I am proud that the Department of Energy was ranked *first* among cabinet-level agencies in the most recent scorecard to assess implementation of the President's Management Agenda. The scorecard, which evaluates agency performance in the areas of human capital, competitive sourcing, financial management, e-Government, and budget/performance integration, was issued by OMB. We at NNSA take very seriously the responsibility to manage the resources of the American people effectively and I am glad that our management efforts are achieving such results.

CONCLUSION

In conclusion, I am confident that we are headed in the right direction. Our budget request will support continuing our progress in protecting and certifying our nuclear deterrent, reducing the global danger from proliferation and weapons of mass destruction, and enhancing the force projection capabilities of the U.S. nuclear Navy. It will enable us to continue to maintain the safety and security of our people, information, materials, and infrastructure. Above all, it will meet the national security needs of the United States of the 21st century.

Mr. Chairman, this concludes my statement. A statistical appendix follows that contains the budget figures supporting our request. My colleagues and I would be pleased to answer any questions on the justification for the requested budget.

National Nuclear Security Administration

Appropriation and Program Summary

(dollars in millions)

	FY 2003 Comparable Appropriation	FY 2004 Original Appropriation	FY 2004 Adjustments	FY 2004 Comparable Appropriation	FY 2005 Request
Office of the Administrator	330	340	- 3	337	334
Weapons Activities.....	5,961	6,273	- 39	6,234	6,568
Defense Nuclear Nonproliferation	1,224	1,328	+ 6	1,334	1,349
Naval Reactors	702	766	- 4	762	798
Total, NNSA	8,217	8,707	- 40	8,667	9,049

Future Years Nuclear Security Program (FYNSP) Schedule

(dollars in millions)

	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	Total
Office of the Administrator	334	340	347	353	360	1,734
Weapons Activities.....	6,568	6,881	7,216	7,353	7,492	35,510
Defense Nuclear Nonproliferation	1,349	1,381	1,410	1,441	1,465	7,046
Naval Reactors.....	798	803	818	834	850	4,103
Total, NNSA	9,049	9,405	9,791	9,981	10,167	48,393

Weapons Activities Appropriation

(\$ in Thousands)

Weapons Activities	FY 2003 Comparable Appropriation	FY 2004 Original Appropriation	FY 2004 Adjustments	FY 2004 Comparable Appropriation	FY 2005 Request
Directed Stockpile Work	1,259,136	1,340,286	- 13,630	1,326,656	1,406,435
Science Campaign	260,867	250,548	+ 23,300	273,848	300,962
Engineering Campaign	270,502	344,387	- 79,472	264,915	242,984
Inertial Confinement Fusion and High Yield Campaign ..	499,230	517,269	- 3,018	514,251	492,034
Advanced Simulation and Computing Campaign	674,453	725,626	- 4,250	721,376	741,260
Pit Manufacturing and Certification Campaign	261,807	298,528	- 1,738	296,790	336,473
Readiness Campaign	270,147	247,097	+ 81,819	328,916	280,127
Readiness in Technical Base and Facilities	1,480,872	1,664,235	- 123,590	1,540,645	1,474,454
Secure Transportation Asset	168,548	162,400	- 948	161,452	201,300
Nuclear Weapons Incident Response	81,114	0	+ 89,167	89,167	99,209
Facilities and Infrastructure Recapitalization Program ...	235,474	240,123	- 1,368	238,755	316,224
Safeguards & Security	558,161	585,750	- 3,280	582,470	706,991
Subtotal,					
Weapons Activities	6,020,311	6,376,249	- 37,008	6,339,241	6,598,453
Use of Prior Year Balances	- 29,981	- 74,753	- 2,000	- 76,753	0
Security Charge for Reimbursable Work	- 28,985	- 28,985	+ 0	- 28,985	- 30,000
Total, Weapons Activities	5,961,345	6,272,511	- 39,008	6,233,503	6,568,453

Defense Nuclear Nonproliferation Appropriation

(\$ in Thousands)

	FY 2003 Comparable Appropriation	FY 2004 Original Appropriation	FY 2004 Adjustments	FY 2004 Comparable Appropriation	FY 2005 Request
Defense Nuclear Nonproliferation					
Nonproliferation and Verification					
Research and Development.....	256,092	231,997	0	231,997	220,000
Nonproliferation and					
International Security	130,873	110,107	+ 3,977	114,084	124,000
International Nuclear Materials					
Protection and Cooperation.....	333,029	258,487	0	258,487	238,000
Russian Transition Initiatives.....	39,081	39,764	0	39,764	41,000
HEU Transparency Implementation...	17,118	17,894	0	17,894	20,950
International Nuclear Safety.....	33,570	3,977	- 3,977	0	0
Elimination of Weapons-Grade					
Plutonium Production.....	49,221	49,735	+ 15,300	65,035	50,097
Accelerated Material Disposition.....	894	0	0	0	0
Fissile Materials Disposition.....	445,528	652,818	0	652,818	649,000
Offsite Source Recovery Project.....	2,172	0	+ 1,961	1,961	5,600
Subtotal, Defense					
Nuclear Nonproliferation.....	1,307,578	1,364,779	+ 17,261	1,382,040	1,348,647
Use of Prior Year Balances.....	-84,125	-45,000	-3,000	- 48,000	
Total, Defense					
Nuclear Nonproliferation.....	1,223,453	1,319,779	+ 14,261	1,334,040	1,348,647

Naval Reactors Appropriation

(\$ in Thousands)

	FY 2003 Comparable Appropriation	FY 2004 Original Appropriation	FY 2004 Adjustments	FY 2004 Comparable Appropriation	FY 2005 Request
Naval Reactors Development (NRD)					
Operations and.....					
Maintenance.....	666,927	723,100	- 4,264	718,836	761,211
Program Direction.....	24,043	26,700	- 148	26,552	29,500
Construction.....	11,226	18,600	- 110	18,490	7,189
Subtotal, Naval Reactors..					
Development.....	702,196	768,400	- 4,522	763,878	797,900
Less Use of prior year.....					
balances.....	0	- 2,000		- 2,000	0
Subtotal Adjustments.....	0	0	0	0	0
Total, Naval Reactors.....	702,196	766,400	- 4,522	761,878	797,900

Office of the Administrator Appropriation
(\$ in Thousands)

	FY 2003 Comparable Appropriation	FY 2004 Original Appropriation	FY 2004 Adjustments	FY 2004 Comparable Appropriation	FY 2005 Request
Office of the Administrator Program Direction	330,314	339,980	-3,154	336,826	333,700

Funding by General Goal

(dollars in millions)

FY 2003	FY 2004	FY 2005	\$ Change	% Change	FY 2006	FY 2007	FY 2008	FY 2009
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General Goal 1, Nuclear Weapons Stewardship

Directed Stockpile Work	1,259	1,327	1,406	+ 79	+ 6.0%	1,521	1,648	1,778	1,812
Science Campaign.....	261	274	301	+ 27	+ 9.9%	301	308	328	341
Engineering Campaign.....	271	265	243	- 22	- 8.3%	268	226	284	237
ICF and High Yield Campaign ...	499	514	492	- 22	- 4.3%	521	535	437	441
Advanced Simulation and Computing Campaign.....	674	721	741	+ 20	+ 2.8%	782	826	834	848
Pit Manufacturing and Certification Campaign.....	262	297	336	+ 39	+ 13.1%	324	314	155	158
Readiness Campaign.....	270	329	280	-49	-14.9%	331	307	357	376
Readiness in Technical Base and Facilities.....	1,481	1,541	1,474	- 67	- 4.3%	1,600	1,753	1,839	1,916
Nuclear Weapons Incident Response.....	81	89	99	+ 10	+ 11.2%	100	101	98	101
Secure Transportation Asset.....	169	161	201	+ 40	+ 24.8%	185	186	190	195
Facilities and Infrastructure Recapitalization Program.....	235	239	316	+ 77	+ 32.2%	373	426	472	476
Safeguards and Security	529	553	677	+ 124	+ 22.4%	575	586	580	591
Office of the Administrator.....	279	283	277	- 6	- 2.1%	282	288	293	299
Use of PY Balances.....	-30	-77	0	0	0%	0	0	0	0

FY 2003	FY 2004	FY 2005	\$ Change	% Change	FY 2006	FY 2007	FY 2008	FY 2009
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Total Goal 1,

Nuclear Weapons

Stewardship	6,237	6,513	6,845	+ 332	+ 5.1%	7,163	7,504	7,646	7,791
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General Goal 2, Control of Weapons of Mass DestructionNonproliferation
and Verification
Research

& Development	256	232	220	- 12	- 5.2%	229	235	246	248
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Nonproliferation
and International
Security

	131	114	124	+ 10	+ 8.8%	119	120	120	120
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International
Nuclear Material
Protection
and Cooperation..

	333	258	238	- 20	- 7.8%	244	250	258	260
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Russian
Transition
Initiative

	39	40	41	+ 1	+ 2.5%	42	43	43	44
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HEU
Transparency
Implementation

	17	18	21	+ 3	+ 16.7%	21	21	20	20
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International
Nuclear Safety

	34	0	0	0	0	0	0	0	0
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Elimination of
Weapons-Grade
Plutonium
Production

	49	65	50	-15	-23.1%	56	59	60	67
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Accelerated
Materials
Disposition

	1	0	0	0	0	0	0	0	0
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Fissile Materials
Disposition

	382	653	649	- 4	- 0.6%	661	673	685	697
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Offsite Source
Recovery Project..

	2	2	6	+ 4	+ 200.0%	9	9	9	9
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Office of the
Administrator..

	54	57	57	0	0	58	59	60	61
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Use of PY
Balances

	- 20	- 48	0			0	0	0	0
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	FY 2003	FY 2004	FY 2005	\$ Change	% Change	FY 2006	FY 2007	FY 2008	FY 2009
Total Goal 2, Control of Weapons of Mass Destruction	1,278	1,391	1,406	+ 15	+ 1.0%	1,439	1,469	1,501	1,526
Goal 3, Defense Nuclear Power (Naval Reactors) ..	702	762	798	+ 36	+ 4.7%	803	818	834	850
Total, NNSA	8,217	8,667	9,049	+ 382	+ 4.4%	9,405	9,791	9,981	10,167

NNSA Program Direction expenditures funded in the Office of the Administrator appropriation have been allocated in support of Goals 1 and 2. Goal 1 allocation includes Federal support for programs funded by the Weapons Activities appropriation, as well as NNSA corporate support, including Federal staffing at the site offices. Goal 2 allocation includes Federal support for all Nuclear Nonproliferation programs. Program Direction expenditures for Naval Reactors, supporting Goal 3, are funded within the Naval Reactors appropriation.

Funding Summary by Site

(dollars in millions)

	FY 2003	FY 2004	FY05 Office of the Admin	FY05 Weapon Activities	FY05 Nuclear Nonprolif	FY05 Naval React	Total FY 2005
Chicago Operations Office							
Ames Laboratory	0.2	0.2			0.2		0.2
Argonne Nat. Laboratory	24.7	19.2		1.9	20.5		22.4
Brookhaven National Laboratory	25.4	44.5		1.6	33.3		34.9
Chicago Operations Office ..	209.5	428.4		25.2	446.3		471.5
New Brunswick Laboratory .	1.5	1.1			1.1		1.1
Idaho Operations Office							
Idaho National Laboratory ...	59.5	58.0			2.0	56.0	58.0
Idaho Operations Office	1.4	1.1		1.4			1.4
Kansas City Site Office							
Kansas City Plant	390.3	403.8		378.0	1.4		379.5
Kansas City Site Office	6.2	6.2	6.0				6.0
Livermore Site Office							

	FY 2003	FY 2004	FY05 Office of the Admin	FY05 Weapon Activities	FY05 Nuclear Nonprolif	FY05 Naval React	Total FY 2005
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Lawrence Livermore National Laboratory.....	1,048.7	1,004.1		963.3	70.4		1,033.7
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Livermore Site Office	12.8	16.1	16.5				16.5
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Los Alamos Site Office

Los Alamos National Laboratory	1,410.0	1,415.6		1,395.6	123.6		1,519.2
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Los Alamos Site Office.....	12.0	14.6	15.9				15.9
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National Engineering Technology Laboratory	1.7	0.0					0.0
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NNSA Service Center

Atomic Energy of Canada, Ltd.	2.4	1.2			1.2		1.2
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General Atomics	10.8	11.0		13.1	0.2		13.3
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Lawrence Berkeley National Laboratory	5.2	4.0			4.1		4.1
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Naval Research Laboratory	22.3	13.3		11.0			11.0
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NNSA Service Center (all other sites)	487.8	467.2	98.7	232.2	83.4		414.4
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Nonproliferation and National Security Institute	0.1						
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University of Rochester/LLE	46.8	62.6		45.5			45.5
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Nevada Site Office

Nevada Site Office	104.1	92.5	17.5	45.7	7.4		70.6
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Nevada Test Site.....	247.7	285.4		282.9	1.0		283.9
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Oak Ridge Operations Office

Oak Ridge Institute for Science and Engineering	7.8	8.8		7.1			7.1
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Oak Ridge National Laboratory	110.6	95.8		7.5	136.9		144.4
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Office of Science and Technical Information.....	0.1	0.1		0.1			0.1
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Y-12 Site Office	9.6	16.3	11.7				11.7
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	FY 2003	FY 2004	FY05 Office of the Admin	FY05 Weapon Activities	FY05 Nuclear Nonprolif	FY05 Naval React	Total FY 2005
Y-12 National Security Complex.....	734.3	728.2		727.0	61.0		788.0
Pantex Site Office							
Pantex Plant.....	413.0	431.1		463.5	10.3		473.8
Pantex Site Office	9.9	10.8	11.6				11.6
Pittsburgh Naval Reactors Office							
Bettis Atomic Power Laboratory	351.6	396.2				401.2	401.2
Pittsburgh Naval Reactors Office.....	7.8	8.2				8.7	8.7
Richland Operations Office							
Richland Operations Office .	0.4	0.8		1.3			1.3
Pacific Northwest National Laboratory	132.5	85.6		4.4	70.1		74.5
Sandia Site Office							
Sandia National Laboratories	1,306.8	1,376.7		1,167.7	144.3		1,312.0
Sandia Site Office	8.6	12.1	12.5				12.5
Savannah River Operations Office							
Savannah River Operations Office.....	14.0	26.5			32.4		32.4
Savannah River Site Office .	3.5	3.1	2.9				2.9
Savannah River Site	305.3	303.3		238.9	55.5		294.4
Schenectady Naval Reactors Office							
Knolls Atomic Power Laboratory	269.5	282.0				308.2	308.2
Schenectady Naval Reactors Office.....	6.3	6.7				7.0	7.0
Washington DC Headquarters	501.3	688.2	137.9	577.5	41.9	13.8	771.1

	FY 2003	FY 2004	FY05 Office of the Admin	FY05 Weapon Activities	FY05 Nuclear Nonprolif	FY05 Naval React	Total FY 2005
Other	5.7	7.0	2.4			3.0	5.4
Subtotal, NNSA.....	8,360.4	8,842.0	333.7	6,598.5	1,348.6	768.4	9,078.7
Adjustments	- 143.5	- 176.2	0.0	- 30.0	0.0	0.0	- 30.0
Total, NNSA.....	8,216.9	8,665.8	333.7	6,568.5	1,348.6	768.4	9,048.7

**QUESTIONS AND ANSWERS SUBMITTED FOR THE
RECORD**

MARCH 18, 2004

QUESTIONS SUBMITTED BY MR. REYES

Mr. REYES. Are there any plans to engage any of the former Iraqi scientists?

Ambassador BROOKS. The National Nuclear Security Administration (NNSA) is initiating a new program to provide employment opportunities to Iraqi scientists, technicians, and engineers. This program will complement other Bush Administration initiatives that seek to support reconstruction efforts and prevent the proliferation of weapons of mass destruction (WMD) expertise to terrorists or proliferant states.

The new effort is in cooperation with the Arab Science and Technology Foundation (ASTF) and the Cooperative Monitoring Center at Sandia National Laboratories. The unique partnership will also help rebuild key elements of Iraq's critical infrastructure and develop new Iraqi business opportunities that provide sustainability to Iraqi science and technology.

The program is being implemented by an international partnership of scientists from the ASTF, a pan-Arab non-governmental organization based in the United Arab Emirates that promotes the development of science and technology in the Arab world. Scientists from international organizations such as the United Nations Education, Scientific and Cultural Organization (UNESCO), as well as NNSA national laboratories will also participate. The program complements the State Department's recently established Iraqi International Center for Science and Industry and the world by the Coalition Provisional Authority (CPA). Since July 2003, the CPA has employed and redirected Iraqi scientists through the establishment, funding, and direction of Iraqi Ministries of Science and Technology, Higher Education, Agriculture, Water Resources, and Environment.

The first phase of the long-term effort is the current survey of Iraq's science and technology infrastructure by scientists from the ASTF. Once the survey is completed, the partners will convene a workshop in the region to bring together representative experts from Iraq, the United States, the international science community, and funding organizations to discuss priorities and options for technical cooperation. Finally, financial contributions from donor countries and funding organizations will be sought to initiate work on several of the highest-priority projects, as well as institute a merit-based nomination and review process for future work.

QUESTIONS SUBMITTED BY MR. THORNBERRY

Mr. THORNBERRY. When will a site selection recommendation be made for the Modern Pit Facility?

Ambassador BROOKS. On January 28, 2004, I announced a delay of unspecified duration in the release of the Modern Pit Facility (MPF) final environmental impact statement (EIS) and selection of a preferred host site location. This was in response to the House Energy and Water Committee's assessment that further decisions on MPF were inappropriate until a revised stockpile plan has been submitted. Once that plan has been submitted and additional discussions with interested members have taken place, the Secretary will resume the process that will lead to a decision.

Mr. THORNBERRY. Have scientists been asked their opinion on what types of tests they would perform if there were a return to nuclear testing? (For example, what warheads would be tested, what would be the effects of the weapons in different environments; would weapons be effective against chemical or biological weapons, what results could be expected, etc?)

Ambassador BROOKS. Yes. Section 3141 of the FY 2003 National Defense Authorization Act requires the directors of the Nation's three nuclear weapons laboratories and the commander of the United States Strategic Command to identify potential tests each year as part of their annual assessment of the nuclear weapons stockpile. Their responses on the need to test a particular weapon and the identification of other tests that, while not necessary, might have value are included in the annual March letter on this subject from the Secretary of Defense and the Secretary of Energy to the President. These documents are classified Secret Restricted Data.

In addition to the foregoing evaluation and identification of stockpile assessment tests, there are on-going classified discussions among the United States Strategic

Command, the Defense Threat Reduction Agency and the nuclear weapons laboratories to consider tests that could add value to the determination of weapon effectiveness against chemical and biological weapons, should testing resume.

There is, however, no plan to resume testing in the foreseeable future.

I would be pleased to brief you on these issues, or have my staff brief appropriately cleared members of your staff.

Mr. THORNBERRY. This year, your budget contains some modest amount for research and development that would allow our scientists and engineers to begin to think about our future in a world that is more dangerous because of the proliferation of nuclear weapons and materials and where deterrence has to have more meaning than mutually assured destruction.

If we do not spend money on Advanced Concepts, what is the impact to our national security?

Ambassador BROOKS. The Advanced Concepts work is designed to provide the United States with a number of important benefits that include: training of the next generation of scientists and engineers; restoring the ability of the weapons complex to meet Department of Defense requirements in a timely manner; and avoiding technological surprise. Failure to authorize and appropriate the modest funding requested in the President's FY 2005 request will set back these efforts with long term, detrimental impacts to U.S. national security.

Mr. THORNBERRY. If we do not spend money on Robust Nuclear Earth Penetrator, what is the impact to our national security?

Ambassador BROOKS. The Robust Nuclear Earth Penetrator research is designed to provide the President and Congress with the information needed to make a decision as to whether or not it is technically feasible to modify components of an existing nuclear weapon, either the B61 or B83, to improve its ability to penetrate hardened surfaces. (There is no change to the nuclear package.) Failure to make this investment could undermine the deterrent effect of the Nation's nuclear stockpile by allowing a class of targets (hard and deeply buried command and control, CBW storage) to remain extremely difficult to defeat.

Mr. THORNBERRY. And if we do not spend money on test readiness, what is the impact to our national security?

Ambassador BROOKS. While there are no requirements at the present time to conduct an underground test, now is the time to invest the funds needed to improve test readiness to 18 months. Restoring this capability will be key in the event there is a problem identified through the Stockpile Stewardship program that can only be corrected with nuclear testing. Failure to promptly correct a flaw in the stockpile would have serious consequences on the credibility of the Nation's nuclear deterrent.

Mr. THORNBERRY. I'm interested in hearing more about what the National Labs are doing to support homeland security?

Ambassador BROOKS. The DOE national laboratories are recognized-by DHS for their leadership in science and technical skills. A full range of laboratory research and technical assistance is presently supporting DHS S&T Directorate in particular, and the other Directorates on a variety of programs. DHS has called upon the laboratories to strengthen USG capabilities in radiation detection technology, testing and evaluation of commercial systems and concepts for border protection, and fielding prototype systems for biological and chemical detection in support of urban warning systems.

The DHS has recently tasked the Homeland Security Institute (HIS) to conduct a capabilities review of some of the National Laboratories in order to have a better understanding of the many ways the laboratories can contribute to the DHS missions. The DOE headquarters offices that oversee the laboratories came together and offered assistance and partnered with DHS and the HIS in developing the survey to be used in this review and will continue to assist in this endeavor as requested.

Mr. THORNBERRY. How is this being managed with NNSA to ensure that we are making best use of the labs and the skills and talents they offer?

Ambassador BROOKS. Across the NNSA, we have broad capabilities to strengthen homeland security. Nearly every office has programs that can contribute to homeland security and the global war against terrorism. We seek to draw on the scientific and technical expertise of our national laboratories, and to focus the efforts of our national security and nonproliferation programs to make the Nation safer. Securing the Nation's nuclear weapons stockpile, global nonproliferation programs, as well as the last line of defense, our emergency response teams, are all directly relevant to combating terrorism. Likewise, DOE's ongoing efforts to protect critical energy infrastructure, support the intelligence community, and conduct broad-based scientific research can contribute to our homeland security.

Because so many the Department's programs and activities support counterterrorism and homeland security, the Office of the Deputy Under Secretary for Counterterrorism was created last year. A major priority for the Office of Counterterrorism is to coordinate and facilitate communication between and among the various program elements in the Department and the Homeland Security Council, the National Security Council and the Department of Homeland Security. As the national counterterrorism and homeland security strategy develops, the office will facilitate application of the full capabilities of DOE to these new missions, without undercutting the DOE's ability to continue to meet its existing national security responsibilities.

Mr. THORNBERRY. How do we provide for long term research and the types of investments that are needed to sustain an enduring homeland security capability, much like what we have for stockpile stewardship for nuclear weapons?

Ambassador BROOKS. NNSA and all federal agencies with core research missions are partnering with DHS to ensure cost effective and leading edge science is recognized for its potential homeland security value. The joint NSC/HSC/OSTP efforts to plan a comprehensive and overarching strategic analysis to guide S&T is one such example.

Mr. THORNBERRY. I understand that NIF is partially operational now. Is NIF currently meeting its program schedule as far as being on time and on budget?

Ambassador BROOKS. I am pleased to report that the National Ignition Facility is operating with 4 of its 192 laser beams and will be conducting its first stockpile stewardship related experiments later this year. The NIF project remains on time and on budget consistent with the 2000 rebaseline. We expect to complete the commissioning of all 192 laser beams in 2008 and begin the ignition campaign in 2009 with the goal of achieving ignition in 2010.

Mr. THORNBERRY. Can you describe the kind of contributions we can expect to see from the investment we have made in NIF and how NIF is integrated into the Stockpile Stewardship Program?

Ambassador BROOKS. The National Ignition Facility will be the only facility that can achieve conditions of temperature and pressure approaching those that exist in a nuclear weapon. NIF will enable the study of issues that affect an aging or refurbished stockpile. It will also advance critical elements of the underlying science of nuclear weapons that will play a major role in validation of Advanced Simulation and Computing. NIF will be important in helping to attract and train the exceptional scientific and technical talent needed to sustain stockpile stewardship over the long term.

Equally as important, NIF will enable the fusion process, which is fundamental to the U.S. stockpile, to be studied in the laboratory for the first time. This is not only one of the grand scientific challenges of our time, but also an essential part of the Stockpile Stewardship Program to maintain our nuclear weapons without nuclear testing.

Mr. THORNBERRY. What would be the impact on the Stockpile Stewardship Program—without NIF or with a NIF that stops at its current capability of only 4 beams?

Ambassador BROOKS. It has long been recognized that the National Ignition Facility is essential to the success of NNSA's Stockpile Stewardship Program. Without NIF, the Stockpile Stewardship Program would not be able to do experiments at the temperatures and pressures approaching those found in nuclear weapons. Without NIF, we would not be able to study one of the processes critical to the operation of our nuclear stockpile—boosting or fusion burn—in the laboratory. Although there are many important parts to the stewardship program, it would be difficult to maintain the capability to certify the stockpile without this facility. If construction of the NIF were to stop at its current capability of only 4 beams, it would be impossible to accomplish any of the above goals. It is essential that all 192 beams be completed and made operational for the NIF to be of benefit to the Stockpile Stewardship Program.

Not only is NIF expected to provide important data that could not be obtained any other way, but also the grand challenge of ignition will attract the caliber of scientists needed to maintain the stockpile in the future.

Mr. THORNBERRY. Is there an alternative to NIF or does NIF provide unique capabilities in the Stewardship Program?

Ambassador BROOKS. NIF is a one-of-a-kind facility in the stewardship program. It is the only machine that we are confident will be able to approach the temperatures, pressures and densities found on the surface of the sun or in exploding nuclear weapons. NIF will allow us to study, for the first time in a laboratory setting, fusion burn a processes critical to the operation of our nuclear stockpile.

Mr. THORNBERRY. Are there any technical obstacles to completing NIF and delivering on its commitments to the Stockpile Stewardship Program and achieving ignition?

Ambassador BROOKS. The NIF project is on cost and schedule, and we expect that the project will be successfully completed in 2008 according to its baseline. In addition to completing the NIF project successfully, we must also build the precision targets, cryogenic handling systems, and the diagnostic hardware required to accurately assess target performance and achieve ignition. All these activities are properly supported by the NNSA Future Years Nuclear Security Plan. The NIF Activation and Early Use Plan establishes the experimental campaign for obtaining ignition and essential non-ignition data. We anticipate a review of this plan by the Defense Science Board this summer, and a finalized plan around the end of the fiscal year. NNSA is fully committed to attaining the goal of ignition in 2010.

QUESTIONS SUBMITTED BY MR. SPRATT

Mr. SPRATT. Ms. Roberson, DOE's FY05 environmental budget request "includes \$350,000,000 that will be requested only to the extent that legal uncertainty concerning certain reprocessing wastes is satisfactorily resolved through pending litigation or by new legislation." As you might imagine, with Savannah River Site in my state, I am eager to see the high level radioactive waste processed quickly. What is the time frame for resolution of the WIR lawsuit?

Secretary ROBERSON. We appreciate the action of the Committee and the Congress through the enactment of section 3116 of Ronald W. Reagan National Defense Authorization Act for Fiscal Year 2005 in acting swiftly last year to resolve this uncertainty with respect to materials meeting the criteria set out in the statute that are to be disposed of at the Savannah River site. This will enable DOE to proceed with its accelerated cleanup plans at Savannah River and the Idaho National Laboratory.

In addition, DOE successfully appealed the Idaho District Court decision to the Court of Appeals for the Ninth Circuit, which vacated the District Court's decision and directed dismissal of the underlying litigation. The full Court of Appeals recently denied rehearing en banc. While the Court of Appeals decision did not reach the merits of the plaintiffs' challenge but instead found that the District Court lacked jurisdiction over that challenge because it was not "ripe" for judicial review, the Court of Appeals' decision to vacate the District Court decision (which had invalidated DOE's general approach to classification to waste from reprocessing) has significantly reduced the legal risk associated with going forward with a number of the activities at Hanford. Barring a successful effort by the plaintiffs to obtain review of the Court of Appeals decision by the Supreme Court, this should conclude this round of litigation on these issues.

Mr. SPRATT. I understand that DOE has been in negotiations with the Governor of South Carolina and that they have developed language acceptable to both parties to resolve this dispute. Would the Department consider enacting a legislative fix for just South Carolina, even if negotiations with Idaho and Washington are ongoing?

Secretary ROBERSON. We appreciated the opportunity to work with the South Carolina and Idaho delegations and Governors, as well as the House and Senate Armed Services Committees, on this matter. As you know, the Ronald W. Reagan National Defense Authorization Act, which became Public Law 108-375 upon the President's signature of it on October 28, 2004, clarifies the Secretary's authority to classify waste as other than high-level waste at Savannah River and the Idaho National Laboratory.

Mr. SPRATT. I have spoken to the director of the Savannah River Site, and he has mentioned to me that without the \$350 million (\$188 million of which would go to Savannah River), there would be substantial layoffs. I am concerned that these personnel, who have developed an institutional knowledge with the EM program, may not be retrievable once the lawsuit is resolved, and the re-creation of that institutional knowledge will add cost and delay the schedule for the accelerated cleanup effort. Is the department concerned about this loss of expertise at the Savannah River Site should the \$350 million not come through this year? What is the Department's plan to prevent cost increases and schedule delays in the accelerated cleanup program should this \$350 million not be provided this year?

Secretary ROBERSON. We are grateful that thanks to the Congress's prompt action in resolving the legal uncertainty with respect to the Salt Waste Processing operations by including section 3116 in the enacted Ronald W. Reagan National Defense Authorization Act. That section, in combination with section 3117 of that legislation, provided the legal certainty necessary to allow sufficient funding for the Salt Waste

Processing Facility and other related activities at Savannah River in FY 2005 to avoid funding-related delays to our salt processing activities. The President's Budget for FY 2006 continues to fund these activities at a level that will allow us to maintain the accelerated schedule.

Mr. SPRATT. To avoid cost overruns and delays, would it be more prudent to decouple the \$350 million in accelerated cleanup funds from the pending legislation or new litigation?

Secretary ROBERSON. The Department's Fiscal Year 2005 budget request proposed to appropriate \$350 million for cleanup at these sites only if legal uncertainty regarding certain cleanup activities at Hanford, Savannah River, and the Idaho National Laboratory was satisfactorily resolved either through legislation or litigation. We did not believe the Department should make hundred-million-dollar-plus investments in facilities and technologies in light of the uncertainty created by the District Court's decision striking down provisions of our waste classification order as to whether DOE had the authority to classify the waste as it had done, and hence with no assurance that the waste form it spent this money creating had a disposal pathway.

We appreciate the action of the Committee and the Congress through the enactment of section 3116 of the Ronald W. Reagan National Defense Authorization Act for Fiscal Year 2005 in resolving this uncertainty with respect to materials meeting the criteria set out in the statute that are to be disposed of at Savannah River and the Idaho National Laboratory. In addition, the decision of the Court of Appeals for the Ninth Circuit vacating the District Court's decision and directing dismissal of the underlying litigation has significantly reduced the legal risk associated with going forward with a number of the activities at Hanford. Accordingly, the FY 2006 budget no longer requests separate funding for tank waste cleanup activities.

Mr. SPRATT. What are the main barriers to accelerating programs to secure, account for, and protect nuclear weapons materials abroad?

Ambassador BROOKS. The Material Protection Control and Accounting (MPC&A) Acceleration Working group was convened by Secretary Abraham and Minister Rummyantsev in early 2003 to work on accelerating U.S. and Russian MPC&A cooperation. The challenge we face in working to accelerate our work with the Russians in this area, and I would call it a challenge, not a barrier, is that the nuclear facilities at which we work are highly sensitive. Granting us access to these sites to perform the vulnerability assessments necessary to begin work and additional access to assure that the funds are being spent on those security upgrades specified, is a very difficult and lengthy process. We would face the same difficulties in granting access to foreign nationals to some of our most sensitive sites. We appreciate the Russian dilemma of balancing information security and the physical security offered by our MPC&A cooperation. The Acceleration Working Group was tasked with new approaches to upgrading facilities in which the U.S. can get the assurances it needs, while maintaining the level of information security that the Russian side needs.

The Working Group did come up with a new approach that is being tested in the form of a pilot project. The approach is intended to be used at the most sensitive Russian facilities. The first site visit took place in January of this year and contracts were signed for rapid upgrades. A second site visit will take place in July. This approach should help us move things forward, but is by no means a panacea for acceleration. What is most important is that both the U.S. and Russia remain committed to the physical protection, control and accounting of nuclear material, recognizing that this is the cornerstone of preventing weapons-usable material from falling into the hands of proliferants and terrorists. Despite the challenges we face, I am confident that we, along with our Russian partners, will find ways to secure this material.

Mr. SPRATT. In light of progress in countries like Libya, would the Administration be supportive of expanding the scope of the Cooperative Threat Reduction program to countries outside the former Soviet Union? If not, why not?

Ambassador BROOKS. The National Nuclear Security Administration (NNSA) Act of Fiscal Year 2000 directed the Office of Defense Nuclear Nonproliferation (DNN) to reduce the global threat of weapons of mass destruction. As a result, DNN's mission is a global one. The National Defense Authorization Act for Fiscal Year 2004 further strengthens DNN's ability to continue working on Material Protection, Cooperation and Accounting (MPC&A) activities throughout the world. Pursuant to the President's Fiscal Year 2005 budget, DNN plans to support MPC&A work in countries of concern worldwide. Cooperative Threat Reduction is, of course, a Department of Defense program. However, the Administration welcomes the new authority granted to CTR in the National Defense Authorization Act for Fiscal Year 2004 to use up to \$50 million in CTR funds outside the former Soviet Union.

Mr. SPRATT. Last year the Administration testified that there was no formal military requirement for a new weapon with a yield below five kilotons; is that still the case?

Ambassador BROOKS. At the present time there are no military requirements for any new nuclear weapons above or below 5 kilotons. Last year's repeal of section 3136 of the FY 1994 National Defense Authorization Act, P.L. 103-160, was an important step that allows our scientists and engineers to research new and emerging technologies that could greatly strengthen the quality of the United States nuclear deterrent.

Mr. SPRATT. On Page 7, of the February MPF report indicates that DOE has analyzed options for producing 50 pits a year at Los Alamos under routine conditions, and 80 pits per year if multiple shifts are used, and that it would have to conduct a new Environmental Impact Statement if it exceeded those limits. Are those estimates of production rates still valid for Los Alamos? If not, when were they revised, and why?

Ambassador BROOKS. *The Final Programmatic Environmental Impact Statement for Stockpile Stewardship and Management* (DOE/EIS-0236) issued by the Department of Energy in 1996 analyzed 50 pits per year under routine conditions and 80 pits per year under multiple-shift operations as a bounding upper capacity for the existing Technical Area 55 (TA-55) complex at Los Alamos National Laboratory (LANL). Consistent with DOE/EIS-0236, a bounding upper capacity for LANL TA-55 of approximately 80 pits per year was reported in the May 2003 *Draft Supplemental Programmatic Environmental Impact on Stockpile Stewardship and Management for a Modern Pit Facility* (DOE/EIS-236-S2). As required by the National Environmental Policy Act (NEPA), a maximum upper limit on parameters is typically used for environmental assessments to ensure that maximum impacts are identified.

Therefore, a capacity of 50 to 80 pits per year was used to bound the environmental impacts of pit production in TA-55 even though this capacity may not be practical from a programmatic viewpoint. Currently, LANL has reported that a maximum capacity of 18 to 30 pits per year can be achieved with some facility upgrades that would include improvements to the material transport system. However, a major upgrade would be required to achieve a capacity of 50 to 80 pits per year in a facility that is already 30 years old. Improvements are currently being implemented to achieve a capacity of 10 W88 pits per year in FY2007.

Mr. SPRATT. When did DOE/NNSA begin experiments with accelerated aging of pits? When will we get results from this testing about whether the pits that will be part of our ongoing arsenal can reliably last beyond 60 years?

Ambassador BROOKS. To address pit lifetimes, initial accelerated aging experiments of plutonium samples were started in 2002. Some of these experiments are scheduled for completion in 2006, but this is only the first-step to establish pit lifetimes. Data from these experiments will then be used to assess the aging effect of small changes in plutonium material properties on nuclear weapon performance. Even though some results on weapon performance will be available in 2007, uncertainty will likely remain in estimating pit lifetimes. Because of the impact on planning a Modern Pit Facility (MPF) construction start in 2012, we will continue to re-evaluate the need to construct an MPF based on size and composition of the stockpile and on pit lifetimes of less than 60 years and greater than 60 years.

FISCAL YEAR 2005 NATIONAL DEFENSE AUTHORIZATION ACT—BUDGET REQUEST FOR MISSILE DEFENSE PROGRAMS

HOUSE OF REPRESENTATIVES,
COMMITTEE ON ARMED SERVICES,
STRATEGIC FORCES SUBCOMMITTEE,
Washington, DC, Thursday, March 25, 2004.

The subcommittee met, pursuant to call, at 10 a.m., in room 2212, Rayburn House Office Building, Hon. Terry Everett (chairman of the subcommittee) presiding.

OPENING STATEMENT OF HON. TERRY EVERETT, A REPRESENTATIVE FROM ALABAMA, CHAIRMAN, STRATEGIC FORCES SUBCOMMITTEE

Mr. EVERETT. The subcommittee meets today to receive testimony on the fiscal year 2005 budget request for missile defense programs. It is a pleasure to welcome our guest witnesses this morning: Lieutenant General Ron Kadish, Director of the Missile Defense Agency (MDA); Lieutenant General Larry Dodgen, Commanding General of the U.S. Army Space and Missile Defense Command; Honorable Tom Christie, Director of Operational Test and Evaluation, Department of Defense.

Gentlemen, we look forward to your testimony.

We have a great deal of ground to cover today, and I want to allow each of our members an opportunity to ask as many questions as possible, so I will be brief. Likewise, I ask our witnesses to please be brief with any prepared remarks. The entirety of your written testimony will be entered into the record.

General Kadish is here today to cover the Missile Defense Agency's budget request for 2005. That request is for \$9.1 billion and includes various programs and elements supporting the concept of layered defenses. These include ground-based, midcourse, descent, Aegis to Ballistic Missile Defense (BMD), airborne laser, kinetic energy interceptors and Theatre High Altitude Aerial Defense (THAAD).

In December of 2002 the president announced the decision to begin building an initial capability by the end of 2004. General Kadish and his team at the Missile Defense Agency have been working very hard to make this initial defensive operation a reality. The event represents a most significant milestone, building upon the concept first announced by President Reagan a little over 20 years ago.

The interceptors are scheduled to be placed on alert this fall at Fort Greely, Alaska. Our members will be interested in hearing of

your progress in fielding this initial capability as well as receiving an update on the status of other programs.

General Dodgen, from the Army's Space and Missile Defense Command, will cover the Army's \$1 billion request for the Patriot system, the Patriot Advanced Capability-3 PAC-3 missile and the Medium Extended Air Defense system known as MEADS.

The Honorable Thomas Christie will provide the Department of Defense's perspective on testing of missile defense systems.

Mr. Christie, I know we all look forward to hearing your views on this topic, especially as it relates to fielding the initial defense operation capability later this year.

Let me recognize my good friend and colleague Mr. Reyes, the ranking member.

Mr. Reyes.

[The prepared statement of Mr. Everett can be found in the Appendix on page 171.]

STATEMENT OF HON. SILVESTRE REYES, A REPRESENTATIVE FROM TEXAS, RANKING MEMBER, STRATEGIC FORCES SUB-COMMITTEE

Mr. REYES. Thank you, Mr. Chairman.

And welcome to our distinguished panel here.

And as we know there has been strong bipartisan support on this committee for a missile defense program, especially in the defenses against short-and medium-range missiles.

But national missile defense has been, I think, more divisive. While we all want a missile defense that works, I know that some of my colleagues are concerned as I am that rushing something into the field just to meet an arbitrary date on a calendar is not something we can strongly endorse. In every other program, we insist on event-based progress. The system moves ahead when it is ready and, most importantly, when it has proven itself.

Putting a dot on the calendar and saying, "By this date, we declare it operational," is like saying my kid will go to college on this date, no matter whether he has finished high school or is only in the third grade.

Beyond that, though, I am with you, Mr. Chairman. I look forward to hearing about the issues facing both the MDA and Army programs, and particularly, how the integration of Patriot and Medium Extended Air Defense System (MEADS) is going.

I want to thank you for the opportunity to say these comments. And I now yield back to you, Mr. Chairman.

Mr. EVERETT. General Kadish, the floor is yours.

STATEMENT OF LT. GEN. RONALD T. KADISH, USAF, DIRECTOR, MISSILE DEFENSE AGENCY

General KADISH. Thank you, Mr. Chairman.

The National Missile Defense Act of 1999 established that it is the policy of the United States to deploy as soon as technologically possible an effective national missile defense system capable of defending the territory of the United States against limited missile attack.

I am pleased to report to you today that we are on track to do just that in this calendar year. Our direction from the President is

to develop the capability to defend the United States, our allies and friends, and deploy forces against all ranges of missiles and all phases in flight.

Beginning in 2001, we proposed the development of a single integrated ballistic missile defense system. We are building over time layered defenses to enable us to engage in all phases of a missile's flight and make it possible to have a high degree of confidence in the performance of missile defense systems. Our program is structured to deal with the enormity and the complexity of this task.

Our budget request continues to implement that guidance in two ways. First it continues an aggressive research and development effort to design, build and test elements of a single integrated ballistic missile defense system in an evolutionary way, and second, it provides for modest fielding of this capability over the next several years. We are requesting \$9.2 billion to support this program of work in fiscal year 2005, which is approximately a \$1.5 billion increase over the fiscal year 2004 request.

About one billion covers costs associated with continued fielding of the first ground-based mid-course defense element, the Aegis BMD sensor and command-and-control and battle management installations for the test bed and the Block-Four alert configuration. And about \$500 million of that will allow us to purchase long lead items required for evolutionary capability improvements in block 2006.

In other words, about \$1.5 billion in fiscal year 2005 supports the Block-Four initial configuration and the activities to place the BMD system on alert and for further system improvements in 2006. About \$7.7 billion lays the RDT&E foundation for the continued evolution of that system.

This budget, in my opinion, is consistent with the approach I have described in many previous hearings.

Last year, we made it clear that this initial capability inherent in the test bed would be very basic. We also emphasized that instead of building a test bed that could be used in an emergency, we would field more interceptors, put them on alert and continue to test.

As of today, despite some setbacks, we are basically on track to do just that.

So with an evolutionary capabilities-based acquisition approach and our aggressive RDT&E program, we can put capability into the field, test it, train with it, get comfortable with it, learn what works well and what does not, and improve it as soon as we can.

Again, this is a unique, unprecedented capability in its early stages that we will continue to mature. We have to strike a balance between our need to continue to test and develop missile defense and our goal to provide effective defenses where there are none today.

I believe we have struck that balance in this budget and continue to do both starting this year.

We are working with Admiral Ellis and the war fighting community to ensure that we can do both of these efforts. Once the system is placed on alert, we will continue to conduct tests concurrently, to gain even greater confidence in the operational capability that we have.

We are working very closely with Mr. Christie and the operational test community. As our tests are planned, executed and evaluated, the BMD combined test force—which brings together representatives from across the testing community—is combining requirements for both development and operational capability testing.

There are approximately 100 operational test personnel embedded in all facets of missile defense planning and execution who have access to all of our test data. They have the ability to influence every aspect of our test planning.

The missile defense program helps define the capabilities and limitations of the system. The thousands of tests we conduct in the air, on ground and in the laboratory with our models and simulations help us identify problems so we can fix them and highlight gaps so we can address them. This accumulated knowledge has and will continue to increase our confidence in the effectiveness of the potential improvements in the system.

The research and development program is working. We have focused on the development of the most promising near-term elements, namely ground-based, midcourse and Aegis. Terminal High Altitude Aerial Defense, or THAAD, is progressing very well and will add capabilities to engage in late midcourse and terminal layers. Achieving capability in the boost phase as soon as practicable would be revolutionary, and it would be a high-payoff improvement to the BMD system.

In this budget we increase investment in the development of the boost phase layer. Two program elements—the directed energy airborne laser capability and the kinetic energy hit-to-kill capability—represent parallel paths and complement each other in this effort.

Interest among our foreign governments and industry in missile defense has risen considerably over the past year. Because geography and allied partnerships count, we are undertaking major initiatives in the international arena in this budget. We will begin in fiscal year 2005 to expand international involvement in the program by encouraging foreign industry participation and investment in the development of complementary boost-and ascent-phase components.

In December 2003, the government of Japan became our first ally to allow its intent to invest more than \$1 billion in a multi-layered BMD system, basing its initial capability on upgrades of Aegis destroyers and acquisition of the SN-3 and Patriot-3 missiles. We have also concluded important agreements with the United Kingdom.

Mr. Chairman, thanks to the tens of thousands of talented and dedicated people across this country, America's missile defense program is on track. The Missile Defense Agency is doing what we told Congress we would do, and your support, in particular this committee's support, has been critical to the progress we have made.

Our test and analysis will give us confidence that we can take the first steps toward initial defensive operations while we continue to prove out our new technologies and increase the system's competence through realistic testing.

I continue to believe there are tremendous benefits and unprecedented technology improvements that we could put in the field in manageable increments, provide some defense where there is none today, to learn about it, gain more experience with it and improve it over time.

Thank you, Mr. Chairman.

[The prepared statement of General Kadish can be found in the Appendix on page 176.]

Mr. EVERETT. Thank you.

General Dodgen.

STATEMENT OF LT. GEN. LARRY DODGEN, USA, COMMANDER, SPACE AND MISSILE DEFENSE COMMAND

General DODGEN. Mr. Chairman, Congressman Reyes and distinguished Members, thank you for the opportunity to appear before this important panel and for your ongoing support to the Army. This committee has been a great friend of the Army, particularly in the efforts to field missile defense forces for this nation.

Mr. Chairman, as we speak, Army men and women are training to operate the Ground-based Midcourse Defense (GMD) system being deployed at Fort Greely, Alaska. During the past few months, an initial cadre of GMD brigades and a subordinate GMD battalion were activated. Once initial defensive capabilities are stood up, these soldiers will stand as part of the joint team in our nation's first line of defense against any launch of an intercontinental ballistic missile toward our shores. I am proud to represent them; meeting their needs in training and support is our highest priority.

In addition to deploying the GMD system, the Missile Defense Agency, the Army and other defense agencies and services have focused attention on improving theater air and missile defense systems, both GMD and Tactical Missile Defense (TMD) systems are vital to protecting our homeland, deployed forces, friends and allies. Air and missile defense is a key component in support of the Army's core competency of providing relevant and ready land power to combatant commanders as part of the Joint Force.

Today I have been asked about, and I am happy to focus on, the Army's fiscal year 2005 budget submission for air and missile defense systems. The President's budget presented to Congress last month included approximately \$1.4 billion that the Army proposes to use to perform current Army Air and Missile Defense (AMD) responsibilities and focus on further development and enhancement to both terminal-phase and short-range air and missile defense systems.

In short, the Army and the missile defense community are continuing to improve the ability to intercept and destroy air, theater and cruise missile threats.

The fiscal year 2005 budget request includes accelerating the development and fielding of medium extended air defense system, MEADS, capabilities into Patriot in a cost-efficient manner. The Patriot/MEADS capability is designed to counter theater ballistic missile threats in their terminal flight phase as well as cruise missiles and other air breathing threats.

These systems, along with the planned fielding of the Terminal High Altitude Air Defense System and other joint programs, will

be an unprecedented umbrella security for deployed U.S. forces, friends and allies well into the future.

Mr. Chairman, since the debut of the Patriot Air Missile Defense System in combat during Operation Desert Storm, the Army has continued to implement a series of improvements to address the lessons learned.

During Iraqi Freedom, we saw the improved Patriot Configuration-3 system, including the effective use of the GEM missile—the Guided Enhanced Missile—and the Patriot Advance Capability-3—the PAC-3 missile. There is no doubt that during Iraqi Freedom, Patriot saved lives by defending against Iraqi ballistic missile attacks.

The Patriot system remains the Army's premier theater, air and missile defense system. PAC-3 is the latest evolution of the phase material change improvement program to Patriot.

Combining developmental testing and operations, this program has allowed for the development and deployment of the PAC-3 missile. This brings a new high-velocity, kinetic, hit-to-kill, surface-to-air missile with the range, accuracy and lethality necessary to effectively intercept and destroy more sophisticated ballistic missile threats.

The Patriot PAC-3 research, development and acquisition budget request for 2005 is \$687 million. This budget request continues the minimum necessary Patriot development to keep the system viable as we pursue acceleration of MEADS capabilities, procures 108 PAC-3 missiles and purchases spares for the system.

MEADS is a trilateral, co-development program with Italy, Germany and the United States. Once fielded, MEADS will provide linkage to the Army's fully networked battle command capabilities and serve as a bridge from the current to the future force. Further, it will enable interdependent network-centric warfare, support interoperability with the Army's future force, as well as Ballistic Missile Defense System (BMDS), and fully support joint operating concepts.

The MEADS system is transformational. It offers significant improvement in strategic deployability and tactical mobility. This system uses a netted distributed architecture with modular and configurable battle elements allowing it to integrate with other Army and joint centers and shooters. These features and capabilities will allow MEADS to achieve a robust 360-degree defense against all airborne threats—theater ballistic missiles, cruise missiles, unmanned aerial vehicles and manned aircraft.

This year's budget includes \$264 million for continuing MEADS design and development.

Recently, the Army—after approval by the defense acquisition executive—embarked on a path to merge Patriot and MEADS programs. In so doing, the Patriot/MEADS Combined Aggregate Program, or CAP, was established.

The purpose of CAP is to achieve the objective MEADS capabilities through incremental fielding of MEADS major end items into Patriot.

Mr. Chairman, by combining the research and development resources available to both the Patriot and MEADS programs, the

Army is able to accelerate incremental fielding of transformational MEADS capabilities into the force.

This fielding approach reduces sustainment costs while delivering increased anti-missile defense capabilities across the force earlier. This approach offers the most efficient use of limited valuable resources and gains the maximum flexibility in regard to funding and changing needs of the war fighter.

The Patriot MEADS program is one of the Army's highest priorities. The Army and the entire missile defense community continue to strive to improve our nation's missile defense capabilities. The Army's fiscal year 2005 budget request for Patriot/MEADS contains approximately \$1 billion to address the terminal phase ballistic missile defense threat.

By establishing CAP, the joint integrated air and missile defense architecture will become more robust as MEADS enhancements are integrated into the existing system.

Simultaneously, lessons learned from the present missile defense capabilities will be incorporated into the MEADS follow-on system. We are confident that this path will provide our service members, our allies, our friends and our nation the most capable air and missile defense system possible.

The Army is relevant and ready, fighting war on terrorism, deployed in Southwest Asia and elsewhere, and deterring aggression throughout the world while transforming to meet future needs. With its responsibility for GMD and Patriot MEADS, the Army is an integral part of the joint team to develop and field the Ballistic Missile Defense System. The Army has stepped up to land-attack cruise missile defense challenge by aggressively developing the architecture and systems necessary to defeat the emerging threat.

We are taking full advantage of integrated fire control to fully enable the kinematic ranges of joint missiles.

The fiscal year 2005 budget proposal continues the transformation of the Army's missile defense force to support Army Future Force, the Joint Integrated Air Missile Defense System and the BMDS.

I appreciate having the opportunity to speak on these important matters, and look forward to addressing your questions.

Thank you, Mr. Chairman.

[The prepared statement of General Dodgen can be found in the Appendix on page 210.]

Mr. EVERETT. Thank you, General.

Mr. Christie, the floor is yours.

STATEMENT OF THOMAS CHRISTIE, DIRECTOR, OPERATIONAL TEST AND EVALUATION, DEPARTMENT OF DEFENSE

Mr. CHRISTIE. Mr. Chairman, Congressman Reyes, and distinguished members of the committee, I also appreciate this opportunity to appear before you today and to discuss with you where we stand with respect to testing of the Ballistic Missile Defense System, or BMDS.

I continue to strongly support the construction and integration of the BMDS test bed. This test bed will provide the elements that make up the initial defensive operations, or IDO architecture.

While I am very encouraged by the improved testing environment and capability that the test bed will provide, I am even more pleased with the increased emphasis on system integration and user involvement that I have seen over the past year.

Strategic Command (STRATCOM) and Northern Command (NORTHCOM) are developing tactics, techniques, and procedures for operating this system.

The Missile Defense Agency and the element program offices are making the developmental tests more realistic. They are ground testing with the available system hardware and software, and involving soldier operators to the degree possible.

As I have said in the past, this system must be built and must be put in the field before we can properly test it.

The Missile Defense Agency is still building it. We have just begun to ground and flight test some of the system components in a tactical configuration. General Kadish is restructuring the BMDS test program in 2005 to focus on further characterizing and evaluating the performance envelope of the IDO capability. This testing will be more operationally realistic in that test scenarios will include more complex target presentations and engagement geometries. It also will provide a better understanding of the IDO end-to-end performance capabilities.

The Missile Defense Agency continues to be proactive when it comes to testing. General Kadish has adopted a test, find, fix and test philosophy. This approach provides a higher likelihood of finding design and workmanship problems early in the program.

The decision to exploit the test bed elements for an initial defense operational capability has required some substantive changes in test planning. Test objectives have shifted from demonstrating component capabilities to demonstrating integrated system capabilities.

My staff and I remain involved on a daily basis with the Missile Defense Agency and the BMDS program offices in order to ensure that operational test issues are addressed in that testing.

I have recently sent forth, for your review, the master test plan for the Block-04 BMDS, along with the developmental master test plans for the four major elements: GMD, Aegis, ABL and THAAD.

While statute prohibits me from having any authority or responsibility for developmental testing, we are involved in an advisory role in the development of these plans.

Aegis and GMD are the two primary elements of the test bed that will comprise the near-term capabilities of the IDO. In both the GMD and Aegis programs, operational testers are involved in ensuring that developmental testing addresses as many of the operational objectives as possible.

The Navy's operational test agency, Operational Test Evaluation Force (OPTEVFOR), is advising the Aegis missile defense program on how to make their testing more realistic without compromising important developmental test goals. The GMD program's combined test force effectively integrates the operational testers into the program development activities, and the test design and planning activities.

The service operational test agencies are working jointly and in concert with my office to independently advise MDA and the GMD

combined test force on test plans, and they are independently evaluating all ground and test flight data.

My office has reviewed and approved the operational test objectives for the last three GMD-integrated flight tests. The operational test agencies, in close coordination with my office, have developed a characterization plan that provides the basis for continuous operational assessment of demonstrated BMDS capability, as it is baselined in 2004, and for each block as it matures.

The Missile Defense Agency has supported this effort, and I am pleased with their openness and cooperation with my office and with the Service Operational Test Agency. We have agreed on the data sources that will support both Missile Defense Agency and operational capability assessments. This will help ensure that test planning will address both developmental and operational objectives.

While the operational test community would place less emphasis on component-level test results, we do agree that such testing can provide a robust characterization and insight into individual component and subsystem performance.

Realistic operational testing requires integration of all the internal and external system elements, including operator personnel employing approved tactics and doctrine in accordance with their training in order to accomplish mission planning and engagement through kill assessment.

When integrated system performance is not confirmed by integrated level system testing, the burden of combining component performance into system performance falls to models and simulations.

Modeling and simulation are not a good substitute for integrated system testing. However, when modeling and simulation are used to provide context to integrated system hardware in the loop tests, they can help to overcome test limitations and give a more composite and complete picture of mission capability.

I feel that MDA is acting responsibly in using models and simulations to estimate system performance, but would caution that since the system is still in development, model-based estimates almost always contain uncertainty.

Fielding the test bed provides an opportunity to gather operational data on system performance, safety, survivability, reliability, availability and maintainability. We should expect these data to drive system enhancements.

The challenge will be achieving a defensive posture that is flexible enough to accommodate the changes to hardware, software and processes that will be necessary to maintain a highly available BMDS system while still supporting a comprehensive test program that is designed to mature, improve and demonstrate mission capabilities through continued development.

In summary, let me say that for years my office has advocated more comprehensive developmental testing leading up to realistic operational testing.

Specifically, we have encouraged programs to do more hardware and software in the loop testing early on during system integration in order to avoid problems typically found during operational testing of complex network weapon systems.

The system integration laboratories being employed by the Missile Defense Agency and its elements are in fact addressing this important aspect of system maturation. The test bed is adding flexibility and complexity to the flight test programs that will pay dividends in the future. The commonality of architectural components between the test bed and the operational system poses management challenges, but should speed the integration of new capabilities as they are confirmed through testing.

Mr. Chairman, ladies and gentlemen, my staff and I continue to work with General Kadish and his staff to ensure that the capabilities and limitations of the Ballistic Missile Defense System are well characterized as the system proceeds in development and testing.

This concludes my opening remarks, and I welcome your questions.

[The prepared statement of Mr. Christie can be found in the Appendix on page 220.]

Mr. EVERETT. Thank you, gentlemen.

You can expect questions today on the GMD and the Airborne Laser (ABL), as well as the kinetic energy interceptors. There is considerable interest from members of the committee on that.

I will follow my usual practice of batting clean-up, and we will allow each member ten minutes on questioning in hopes that we can not have the five-minute rounds where everybody gets eight or nine minutes to start with.

So I will recognize my ranking member, Mr. Reyes, to start with.

Mr. REYES. Thank you, Mr. Chairman.

And gentlemen, again, welcome and thank you for your testimony.

My first question, General Kadish, goes to the ABL, the airborne laser. You were here asking for a second airplane, and now we see in the budget that the airborne laser is set up to be canceled. What exactly happened with that? What prompted that? And more importantly, what do we see in the future for the ABL?

General KADISH. Well, Congressman Reyes, I would like to maybe change the characterization of the program to be set up to be canceled to something different than that, because that is not what we intended to do, but you got that impression.

Mr. REYES. All right.

General KADISH. What we ended up having with the airborne laser—you are right, we did ask for a second airplane and to further continue the development of that effort.

However, in the execution of this very complex and revolutionary effort to put a laser on an airplane and have it shoot down missiles at long range, we ran into some technical difficulties with the last 20 percent of the effort. We are in the last phases of putting the airplane together. So we began missing our schedule milestones in that last 20 percent.

And I took a look at the program intensely in the final months of last calendar year to see what we needed to do to make sure we could improve our chances of success and put more emphasis on the near-term events that we have to accomplish to be successful.

What we determined to do was restructure the program to focus on getting first light—that is, get the laser to work on the ground—

and second, to put the optical train in the air and begin to test fly it.

At the same time, those uncertainties in our ability to meet schedule gave us pause as to whether or not we should continue to spend money and buy the second airplane that was authorized during this time period. And we set up the idea that we will wait for the progression of the program to meet those milestones, and if we meet them, we will come in and ask for the second airplane again in the process.

There is no reason to believe, at this point in time, that we cannot accomplish what we set out to do with the airborne laser—though it has taken more time, and it is taking more money, than we expected it to. So, that is the situation we face.

And I just might point out—I don't mean to overstate this or make it look too trivial, but if you think about what we are trying to do with that airplane, to shoot down, using directed energy, a ballistic missile in its boosting phases of flight, and the technical challenges to do that, it is monumental what we have accomplished so far. And we are not that far from proving whether it will or will not work, but we need more time.

And one of the major challenges, if I could just point your attention to that wall over there, I am trying to hold that beam of laser light as steady as I can. Now, the airborne laser has got to do that over hundreds of miles to shoot down that missile.

Now, we have all the hardware there. We have all the talented people we could find to put it together. And we are just having a little trouble meeting the schedules to do so at this point in time.

But I will also say, we are not going to proceed with the balance of this program as we envision it with the second aircraft until we are confident that it is worth the taxpayers' investment.

Mr. REYES. And that leads me into my second question. As you heard in my opening statement, there are a number of concerns with the ground-based missile defense system and the fact that we are deploying it and our strategy is to simultaneously test for effectiveness and some people have called it fine tuning.

Given the experience that we have had in the past with the Patriot system, with THAAD, as you just mentioned and very eloquently explained, the difficulty with the ABL.

Two questions. First, how would you rate the GMD system in terms of complexity with those three other programs? And second, given the experience that we have had with these three programs where we have done a considerable amount of testing, investing and re-evaluating and reconfiguring and all those kinds of things that testing is designed to do, how do we justify deploying GMD in that context without doing testing beforehand?

And Mr. Christie, I would like for you to comment.

General KADISH. Well, let me start by reminding you that we are not trying to build individual elements as we started Patriot 3 and even THAAD User Operational Evaluation System (UOES), you will recall, as autonomous parts of a missile defense system. What we are trying to do is make an integrated system against all ranges of threats, and that is a very, very difficult challenge and, in fact, unprecedented in many ways.

So the complex idea of what GMD is against—long-range missiles—is about the same complexity as we have against short-range missiles if you are doing the engagements of outer space like THAAD and even in the atmosphere.

Mr. REYES. Which our experience has shown have been considerable.

General KADISH. Considerable. But over the last three years, we have made significant progress in demonstrating the technical capability to do so. We demonstrated in Patriot 3 in the atmosphere we can do it. And I think our efforts were validated in the combat use of that system in Operation Iraqi Freedom.

THAAD we put back into development, and we are getting ready later this calendar year and next to start an aggressive flight test program again.

In the GMD program, we have five out of eight intercepts that repeatedly demonstrated we could actually intercept intercontinental-range warheads.

And I would point out when you look at the complexity with the Israeli Arrow system, we have more tests today on GMD than the Arrow did when the Israelis put Arrow on alert to defend Israel.

So the principles of hit to kill and the basic technologies are very complex, but we have proven that we can make them work. And now our challenge is to make them work as a system.

And that is what we are doing with the test bed that we put together and started building over two and half years ago. And as Mr. Christie said, when we get the test bed up, we have inherent operational capability, and we are going to use the test bed to test as well as to protect the country if the need should arise. And it is that concurrent use of the test bed that I think is the power of making sure we can do this long-term.

It is a little long answer, but the complexity is there. We have demonstrated our confidence that we can do this mission. We were building the detecting and the operational networks to make it happen. And we are working hard to put it all together.

I don't know if Mr. Christie has anything to add.

Mr. CHRISTIE. Well, I would like to add to that that, as I stated in my statement, that I fully support building and putting in place this test bed, in fact, the test bed and its various components. This is not a cheap undertaking, and it takes time.

Many of those components respond to criticism from my office going back about four years ago. And the test bed, once put in place, as far as testing is concerned, will provide a much more operationally realistic context in which to fly the flight test.

We will have different geometries than what we have had before. We will remove many of the other artificialities that I have, in fact, criticized General Kadish's program for, which was a natural progression that he had in early testing. But we have to have the test bed to characterize how this system will work then.

The issue, of course, is in the fact that the test bed once put in place will also provide an emergency operational capability.

Mr. EVERETT. Mr. Bishop.

Mr. BISHOP. Thank you, Mr. Chairman.

General Kadish, having not had the opportunity of meeting you before, I had some timidity about the questions I am going to ask

you today, but I looked at your bio and I realized that anybody who received a master's degree from my alma mater and spent a couple of years at Rhein-Main can't be all that bad.

General KADISH. I agree with that, Congressman.

Mr. BISHOP. I appreciate that.

I would actually like to ask you a couple questions, six to be precise, about page 29 of your testimony in a program that is called the Russian-American Observational Satellite program, or the acronym RAMOS.

For the record, as well as for maybe the rest of the committee, this is, as I understand it, the program originally discussed in the Reagan administration, the first Bush administration initiated it. When the current administration withdrew from the ABM (Anti Ballistic Missile) Treaty, which I agree with that strategy, the President pledged cooperation with the Russians in the area of missile defense.

As I understand, there are two significant areas over the past 10-plus years of this program, first in scientific cooperation and exchange in which we have gained a great deal of helpful scientific data, as well as intelligence in this interchange, and second, the political trust and cooperation that has been hopefully not lost with it.

I understand that Mr. Wynne, who is the Undersecretary of Defense for Acquisition, recently received a letter from Mr. Dmitriyev, the chairman of the Russian Federation Committee on Defense and Technical Cooperation with Foreign Nations. I have only seen the translation of that, not the actual letter. I am assuming it does exist.

I guess the first question is have you actually seen this letter?

General KADISH. Somebody gave it to me late last evening and I quickly looked at it, a translation of it. Yes, I have, Congressman.

Mr. BISHOP. But not the actual letter.

General KADISH. Not the actual letter, no.

Mr. BISHOP. With your assumptions, did the letter indicate a support by the Russians for the RAMOS program, as the translation I saw did?

General KADISH. It did. And I didn't read it in detail, but I think it also pointed out the difficulties we were having in negotiating the agreements and recognized that we are still interested in a broad range of cooperation with the Russians beyond the RAMOS program.

Mr. BISHOP. General, would it be possible to supply the committee or me with a copy of the original letter? We will request it anyway.

General KADISH. I suggest you do that, sir, and then it will go through the process. But I don't see any reason personally why that shouldn't happen.

Mr. BISHOP. Number four in this process there, the reason for the termination of the RAMOS that we received was the lack of support from the Russians in a couple of areas. In the translation that I saw, from their support, they claim that they still have intense interest in this program, that the only two areas left as far as the negotiations were an element in which they saw the United States as being unilateral in their removal from that.

If indeed, that translation is accurate and the Russians still have an intense support of this particular program, are you prepared to reinstate this program?

General KADISH. I think we will always look at whether or not we did the right thing in regard to the RAMOS program.

The difficulties we have with RAMOS, if I could just put it in an historical context that even you mentioned, we were trying to get this program together and off and running for over eight and a half years.

And it is not like this was an arbitrary time frame we picked. We ran into a series of issues with the Russians that were not within MDA's ability to close in terms of taxes and liabilities and other things, as well as we were getting ready to commit a large amount of dollars to the program without the underlying agreements being in place.

So there was going to be a significant delay in any case in the overall program. And when we looked at what the outcome could be for the science and the benefits over another 10-year period, we believed that it would probably be in the Russians, as well as our best interest to refocus efforts in other areas that are more current and more beneficial to both of us.

Mr. BISHOP. Well, then let me ask a final question on that area. But let me ask one other question before I get to your last comment.

Would it be possible to accommodate the Russians with a scaled-back version of the RAMOS program?

General KADISH. It is always possible to look at that type of effort. But I believe, and I think there are others in the department as well, that other than the specifics of RAMOS in that particular technology area, infrared satellites for warning, we have many other opportunities that we could have with the Russians to further both our agendas in missile defense that are on the table and we are actively undergoing negotiations.

Mr. BISHOP. Well, I appreciate you saying that because in Mr. Wynne's letter to Mr. Dmitriyev, the conclusion was, "We also look forward to continuing discussions on areas of missile defense cooperation that would bring greatest mutual benefit to our nations," which is what I think I hear you saying—

General KADISH. And we mean that, Congressman.

Mr. BISHOP. Well, I guess the question I would then have is that with the concept of the factors and the termination letter, as well as that last statement, if, after 10 years—and I think \$103 million we spent on RAMOS so far—if we are indeed ready to terminate the only program that fits in this category, is there indeed something substantial in the pipeline that you can share with me now that we are ready to start?

And do the Russians really have any sense of optimism on something in the future if we stop this program in the middle of it, in which they clearly indicate their willingness to move forward?

General KADISH. Well, first of all, we had a willingness to move forward for many years, and we weren't able to close on the issue. But I had the opportunity to have discussions with Mr. Dmitriyev and another representative of the Russian government last October on these very issues. And as a result of that conversation and a few

events subsequent to that, we believe that there are very viable alternatives that the Russians and the United States would be very interested in pursuing and, in fact, are pursuing at the staff level now.

And the experience we had with RAMOS has actually laid the groundwork for those further discussions on a new area of work. And I am confident we will continue that and accelerate them as much as we are allowed to in the process. And I know it has the support of both President Bush and President Clinton because that is why I was there talking to them at the time.

So I don't know what else to say about RAMOS. We are very interested in the Russian cooperation. The particular program we had worked out did not seem to be fitting either of our needs at the time and it didn't seem to have a good rationale that just because it was the only one we had at the time that it should continue.

Mr. BISHOP. General, it may be fair to say that there are some of us, and I am one, who is particularly interested in this particular program for a whole bunch of reasons, some of which are parochial, but a whole bunch of reasons for this particular program.

And, once again, in the translation of the correspondence I have seen so far, it does not bode well necessarily to substantiate the arguments that our side has used in the termination of that program.

If it is at all possible to continue on with this program, I would see there is some benefit that could be substantial down the road, which is one of the reasons why I would be very much interested in once again seeing an official letter, because mine has only been a translation. I would like to verify the accuracy of that particular translation that I have seen.

And with that, Mr. Chairman, I didn't want to expand my ten minutes into 12, so I am under significantly, aren't I?

Mr. EVERETT. I appreciate it.

Mr. BISHOP. Okay.

Thank you, General, I appreciate your answers.

General KADISH. Thank you.

Ms. SANCHEZ. Thank you, Mr. Chairman.

Hello, gentlemen. Good to see especially you again, General Kadish.

I have two lines of questioning that I hope you can help me with today.

While, General, you mentioned earlier that you really see this as a total encompassing project or program of both space-based and land-based and a whole array of situation, I guess I am a bit more limited, maybe, in my thinking, in that I really break this down into a couple of areas, one, the space-based area, and the other, the land-based area, which of course we have a lot more history with through the Army. And I think both of them, from my perspective, have some major problems with them.

Let me ask you a question about the space-based, and then I want to talk a little bit about the deployment that we are doing actually up in Alaska.

I am actually really concerned about weaponizing space at this point. Mostly I am concerned about it because I don't think that

the American people really understand that this is actually going on, or that we are considering it.

I don't think that there has been much public debate to it. I don't think this Congress has really debated it very much. And I think it might have some benefits, but it also poses a lot of risks. And in looking at the budget, I think that there is about \$10 million toward research specifically on space-based kinetic energy test beds. And then, supposedly, this research is to lead to on-orbit testing in the 2010, 2011 time frame, with an experimental constellation in 2012.

One of the reasons I think we do need to have more debate about what we are doing with the space-based issue is that you might just have \$10 million today in this, but the ramp-up to get this done, to have this limited experimental constellation by 2012, I mean, we are talking, I think, hundreds of millions if not over billions of dollars.

And given the financial constraints that we have as a people right now, the deficit spending that is just going crazy, the Medicare bill that is not even put into our budget yet, et cetera, this is a major concern for us to be actually thinking that we are going to get, by 2012, to this type of a constellation system.

Ms. SANCHEZ. So, I guess, how do we know that doing this space-based bed isn't really a jumping off point for weaponizing space?

General KADISH. Well, the definition of weaponizing space has always been troubling to me in terms of discussing it. So let me just, from a philosophical standpoint, point out that this is a defensive system with no offensive capability from a weapons standpoint. So if somebody uses space—and all our engagements are in space, by the way—to attack us, they have weaponized space, and we are defending ourselves against it.

But having said that, right now our focus in building this integrated missile defense is terrestrial. And it will continue to be because that is where we can reduce the risk in the overall performance of the system, understand the technology better and deal with it in the environment that is on the ground and at sea.

So all except for the \$10 million that you pointed out in this next year budget goes to that effort. So that is our focus.

Ms. SANCHEZ. And what is your estimate of this ramp up that will take us to a 2012 experimental constellation?

General KADISH. We put some money in the five-year program to show that if we decide to move into the space as a test bed to do interceptors that we would have some resources to do that. But I can assure you before that happens, Congress and the Administration will have ample opportunity to debate whether that is a good idea.

But right now we don't need to put interceptors in space to do what we need to do for missile defense now.

But we should never, in my opinion, disregard that someday we may need to do that or it would be in the best interest of the country to do that. And rather than start from behind, we need to just study it and look at it all the time, at least at some level. And that is what we are doing.

Our main use of space today is from a sensor standpoint. In fact, we just talked about RAMOS earlier. RAMOS was to put two satellites up and experiment with them.

So from a sensor perspective, we need it a lot and are using it today, but from an interceptor perspective, we have some very low-level investment in study activity and experimentation.

Ms. SANCHEZ. So as somebody who leads our national missile defense area, do you have the back-of-the-envelope numbers as far as what that ramp-up would be? I mean, you are mentioning it—

General KADISH. We have, we have—

Ms. SANCHEZ. Where are the numbers, where can I find them?

General KADISH. For the record, I can give you the actual page numbers of where that is. I don't have them with me today.

Ms. SANCHEZ. I don't think I saw estimates in the page numbers.

General KADISH. I think it is just an out-year funding stream, starting in 2005. And I think we had some last year as well, or in this year's budget.

So it is hard to give an estimate that has high confidence without knowing exactly what you are going to do, to begin with. So you need to study money and the other efforts early on to define that so you can provide a cost estimate with some amount of veracity.

Ms. SANCHEZ. I agree with the comments you just made, but it is also true that I think you need to start with some sort of an estimate. Otherwise you really can't begin to compare what the path is you are going down compared with all the rest of the needs that we have in the United States.

The second question I have for you all is with respect to the testing that has gone on and the test bed and the construction and operational facility that we are putting in.

You mentioned earlier that we have five of eight tests that have been successful. I kind of chuckle at that, because we know when the missile's going to be shot, we know its trajectory, we know its location, we have a little beeper on it that tells us, "Here I am. Here I am. Come get me." It goes much slower than anything that would be coming at us if we anticipate that, in fact, North Korea or somebody else would shoot something at us. I don't really call that necessarily successful.

But having said that, can you give me the status of the sensors for the GMD test bed? Is the sea-based X-band radar ready? When will it be ready? And how would we declare operational capabilities without having those radars ready?

General KADISH. Well, let me see if I can take apart the question that you have.

I guess I would strongly disagree with you about your characterization of the success of our testing activities. It is a major accomplishment to do what we have done. Nobody else in the world has done it, in terms of the hit-to-kill demonstration of the technology.

Ms. SANCHEZ. You would agree, General, that it is not a real case scenario. I mean, that is not really the way—

General KADISH. But that is not the point.

Ms. SANCHEZ. North Korea is not going to call us up and say, "Let me tell you, at 2:01 tomorrow morning I am shooting something at you 10 times faster than what you have been testing."

General KADISH. I believe that once we begin to use the test bed, that that capability will be inherent in the overall test bed. And that is one of the reasons why we want to build a test bed is to eliminate some of the artificialities that you pointed out. But those things are necessary for not only accomplishing the test program, to gain confidence in the outcomes, but also for safety and environmental reasons.

But let me turn to the Sea-based X-band radar (SBX) part of the question. The SBX is currently about 50 percent complete. It is on schedule, and in fact, in certain areas, earlier than what we had planned. And we believe that at the end of next calendar year we should have that radar into the test program. And as soon as that happens, it will be available because it has an inherent operational capability.

The radars that we are using for the initial capability are adequate for the overall test program and operational capability that we expect to have at the end of this calendar year. The SBX is an improvement to that, not a substitute for those radars.

Mr. EVERETT. The gentlelady's time has expired.

Ms. Tauscher, since we are giving 10 minutes, I think it is probably better that we break at this point. And unfortunately, we have a series of four votes as I understand it, which means that we will be there probably 35 or 40 minutes. I apologize for that. You know, that is the way things are around here.

We will meet back here as soon as the voting procedure is over. Thank you.

[Recess.]

Mr. EVERETT. Thank you, gentlemen, for waiting.

The hearing will come to order.

Ms. Tauscher, I think it is your turn.

Ms. TAUSCHER. Thank you, Mr. Chairman.

General Kadish, General Dodgen, Mr. Christie, thank you so much for being here.

I am very concerned and deeply disappointed that we find ourselves in a situation where we effectively are rushing to deploy a system that by I think most measurements has had a few tests that I could only characterize as being graded on a curve; that we are no longer compelled to pursue a 100 percent solution for every possible attack scenario, as it says in the testimony; that we are willing to deploy something without a test bed that has never been operationally tested to anybody's satisfaction, we are only using simulations.

And it appears to be, unfortunately, that we are rushing to deploy it and claim that we have deployed it and have pictures taken and backs clapped to meet a date that has artificially been put out by the administration for political reasons.

Now, I am for a national missile defense that works. And I am certainly for one that is fiscally responsible. I am afraid that we don't have either right now. And I find myself in a situation where I am doubting significantly whether the administration can be trusted with the information they provide us.

And I feel deeply concerned that they trot people like you out who have tremendous service and tremendous loyalty to this coun-

try to represent a point of view that is more ideologically driven than it is by fact.

You know, this is no different than the Medicare numbers. This is no different than a lot of things that we see in here that just cannot be supported by facts. And it is a lot of money to be spent to rush this deployment when we cannot get this wrong.

So, General Kadish and Mr. Christie, I find myself looking at this approach. And I don't know of another weapons system that we haven't flown before we bought it. And I think this is such a crucial last defense against a missile attack, as I said we really can't learn from our mistakes because if the system doesn't work, we have a heck of a problem on the other end.

Why should this committee invest over \$9.1 billion this year when we have only a threshold where 95 percent used to be not good enough, but now 90 percent is good enough? And what are we doing to get more confidence in the systems that we are going to fund?

And, to Mr. Christie, can you tell me how many other programs have achieved initial defensive operations without a full system test?

General Kadish?

General KADISH. Well, Congresswoman, let me start out by commenting on a couple of issues before I answer the questions.

I would like to clarify the idea that we are rushing and there is a date certain for deployment this year.

First of all, there have been four presidents and ten Congresses that have asked us to proceed with missile defense. And we have been investing in this for a lot of years. And we are now to the point where I believe the technology is going to support having a capability to defend the country where there is zero capability today.

The second thing is, I would like to clarify this idea of a date certain for the operation of the test bed and initial defensive operations.

A few years ago, when we postulated the test bed, we indicated that some time in the September time frame of 2004, we were going to have the test bed capability. And when we changed to have an operational capability at the same time, we did not change that date. And that was for two reasons.

One was that we need a date for people to work to. And second, we needed to measure ourselves as to what the progress would be in an enormous complex activity.

Other than within MDA, setting that date for our own internal management process, I do not believe any other date has been postulated that we must meet just because that's what the calendar went by.

We are trying very hard to accomplish all the tasks on an event base that will get us within the time frame we originally planned for this, which is the fall of this year.

I can tell you today that my estimate as of this morning was that we were within 60 days of that date in accomplishing our basic test bed and operational capability. And we are working hard with the using commands to understand how to actually put a very unprecedented, complex system on alert throughout all the steps.

So the date certain idea of this being an arbitrary date, I would disagree with. And if we don't make it, it will be a disappointment to me, in the sense of the management failure to some degree, but we will do it when we are able to do it, in accordance with our plan.

Ms. TAUSCHER. General Kadish, can I just interrupt you for a second? Can we just have a little gentlemen's bet here? I will bet you a cup of coffee at Starbucks—which costs about \$5 these days—that there will be a picture taken in Alaska, before the election, of a deployed system. Politically, that is exactly what this administration wants. And if that happens, then I think that we are in really tough shape.

General KADISH. I can't speak to the politics of that type of thing. We have been working hard for over six years now in the GMD element toward this date. And I think if you review my testimony even four years ago, I was saying in the calendar year 2005 would be the time frame we were going to do this, and September-October of this year is pretty close to that. And that was fiscal year 2005, not calendar year 2005.

But be that as it may, we are working hard to get the job done as we understand it. And the confidence we have in the system, I would characterize this as being a once in a generation type of development weapon system that comes along and could change the military balance so significantly that it warrants a fly as you buy strategy rather than a fly before you buy type of activity in traditional weapons systems terms.

And that is basically what we are doing, trying to put on alert. And I might add, part of the development of such a revolutionary weapons system is not only the technology required for such a thing, but the tactics, techniques, procedures and strategies of the people using this capability.

We never had a defensive system of this nature. And it is something new that has to be developed in use at the same time as we are developing the technology to use it. And that is why we have got to test and improve the system over time rather than waiting for some vision of it to be built and tested the way we normally do in terms of our traditional weapons system.

Our procedures in the department for normal weapon system programs are designed to replace something else, an airplane with an airplane, a tank with a tank, and they are very good at making sure that that replacement through the operational test process, through our oversight process, is as good or better than what we are replacing, and rightly so.

But when you have a revolutionary capability like missile defense, where none exists today, we need a different way of managing and looking and developing it. And I believe we struck that balance in the way we put this program together. I don't know if Mr. Christie has anything.

Ms. TAUSCHER. Well, I do want to have Mr. Christie speak. But I can tell you that I think that for every reason you have just described, the fact that we have never done it before, that it appears so hard to do, that the science is very difficult and there are so many different moving parts to this, that it is an enormous investment, that there are tremendous political, geopolitical concerns

about just doing this, period, that we had to abrogate a treaty that I was for amending, not abrogating, for all of those reasons, slow walking—I am not saying that we don't make big investments and that we don't take the lead—but doing this with a lot more care and a lot more opportunity to know that we are actually not biting off more than we can chew, I think is a better policy than the one that we have adopted for this.

Mr. Christie.

Mr. CHRISTIE. Add to General Kadish's comments, I go back to my statement that we are building this test bed to a great extent as a result of criticism of our office, that it will provide us with an ability to test this system in a much more realistic environment than we have had.

We have been criticized for some of the artificiality. We had to build, buy, and build this test bed and put it in place. And in so doing, there will be an inherent capability there. Now, how capable that is, is another issue, and that will be addressed in the building.

General Kadish makes the point that this system is, you know, revolutionary; it is not replacing an existing system. We have been through this before with other systems on a much smaller scale perhaps. (JSTARS) Joint Surveillance Target Attack Radar System, for example, was deployed in the first Gulf War when it was only a prototype. We had not even entered full-scale development. It was then deployed in the Bosnia situation, where the operational test was done as part of the deployment.

So we have done this kind of thing before. We have done it with satellites. You have to build a satellite, you have to put it in orbit, in order to do the testing. And I think that is what is happening here. And I think also the fact that we have had several tests postponed, which I am a little concerned about, is reflective of the fact that we are not rushing into something. This is a development program, and it is test, find problems, fix them before you go test again. And that is what we are doing.

Mr. EVERETT. The lady's time has expired

Ms. TAUSCHER. Thank you.

Mr. EVERETT. We are going to have votes every 40 minutes for the rest of the day, and we can stay here as long as I feel that it is useful to do.

General Kadish, I do appreciate your comments about the Israelis, and their deployment of the Arrow missiles. I think there is a great parallel to be drawn there.

I also think that the Israelis know something about life and death, and about protecting their country. And that is the reason they deployed those Arrow missiles. We have done much more testing with the TDM than the Israelis had done with the Arrow missile when they deployed it.

I also find it regrettable that members would insinuate that general officers would salute and lie for the Administration. I know that is not true. And I apologize to you for the committee, that some members would insinuate that.

Ms. TAUSCHER. With all due respect, Mr. Chairman—

Mr. EVERETT. No.

Ms. TAUSCHER [continuing]. I am sitting right here, and I don't need you to apologize for me.

Mr. EVERETT. If you don't mind, I did not interrupt you during your 10 minutes, and I would respectfully ask that you do not interrupt me during my 10 minutes. You will have a chance to reply later.

Much of what we have heard here today is editorial opinion. I was in the newspaper business for 33 years. It is not factual. It is editorial opinion. And it is not based on good science, it is not based on precedent or anything else.

Putting that aside for the moment, I am concerned about the ABL. I have seen some cost estimates of it costing an additional billion dollars. I am also concerned that we may need to start looking for something to complement ABL or a backup to ABL. I think the committee ought to take a close look at that.

But, if you would, talk to me a minute about the ABL.

General KADISH. Mr. Chairman, I think you brought up two very good points about the fact that the ABL works in the boost phase, which is very important to us. It was prohibited by the treaty that we work there for a long time. And it is also a revolutionary technology.

We did, and have put together in the ABL program a cost increase because it has taken longer than what we thought it was going to be. And I believe that we have in our budget somewhere in the neighborhood of \$3 billion more allocated to the program to make sure that we have the ability to either decide it works or it doesn't work.

So, it is very expensive, but it would revolutionize not only missile defense, but warfare if we could make that weapon system work.

Point number two, you bring up a very good point about the fact that there maybe should be a backup alternative in case we run into an unsolvable technical problem with such a revolutionary technology. And that, in fact, is what we did by awarding a contract this past year and putting in the budget a kinetic energy hit-to-kill approach for boost phase that we call the Kinetic Energy Interceptor (KEI).

So that is a parallel path in boost phase, different technology than the ABL, that would complement the ABL if both of them succeeded, but would certainly be a risk reduction if ABL did not succeed.

Now, I don't want to leave you the impression that I am concerned that we are not going to succeed on ABL. The risks are high, but there is nothing that we see from any of the experts in this country today that says that we cannot do this and make it work to the extent that we have expected for a number of years.

But it is going to be harder than we thought. So we put in the money to take it to the next level, to make sure that we have done everything we can to make sure that this thing can go together and work.

But because it is high risk, we decided to start a parallel effort in the KEI boost effort, to make sure that we have an alternative that could be either a replacement for or a complement to a directed energy activity like ABL.

Mr. EVERETT. How sure are we that this new initiative would work?

General KADISH. That is one of the problems we have today, Congressman, because I can't tell you whether either one of them is going to work. But we have to work on them together and get them to the point to make that decision based on data and our risk assessment of going forward.

If I could tell you today that ABL was going to work with certainly, I would say that we may not need as much emphasis on the KEI boost effort, and certainly the other way around. But in either case, I cannot tell you that today.

Mr. EVERETT. I am in the mind that we possibly should take some 6.2 money and put it perhaps at Huntsville or somewhere to take a very close look at this. And I would like to meet with my counterpart, Mr. Reyes, at some point and also with you to talk about doing that.

We spent an awful lot of money on ABL. We have had some notable disappointments concerning the ABL, notwithstanding the fact that we understand the complexity of the problem as illustrated by you earlier.

So I think that we may be talking to you a little bit later to see if you have any ideas about some 6.2 money that we can possibly direct to—see, I don't want to get down the road a year or two years or three years, four years from now and for us to decide that the ABL or the new initiative is not working and we have to start over from scratch. That really puts us in a huge hole.

So I will probably be asking for some guidance from you about something that we might be able to do with some 6.2 money from the committee to take a look at this.

General KADISH. I will be happy to, Mr. Chairman.

I might add one more thing concerning the ABL cost approach. It is certainly expensive, as you pointed out, the cost growth, but when you measure it against THAAD, for instance, we have spent, I think—I would have to make sure the numbers are right—but when we did the THAAD program in the UOES (User Operational Evaluation System) part, there were somewhere in the neighborhood of \$3 billion or \$4 billion we spent on it getting the flight tests toward the end of 1999.

And then we put it into another development activity that we are going to start flight testing again later this year and certainly next year, and that is another \$4 billion that we invested in THAAD.

So this is not unprecedented within the missile defense effort. And I think we need to look relatively speaking at how we have done some of the other efforts along this line in terms of cost.

Mr. EVERETT. Mr. Christie, do you have anything to comment along those lines?

Mr. CHRISTIE. Well, with THAAD, as you recall we had a lot of problems with THAAD early on and there was an assessment, I guess, that we had sort of rushed to failure. And so, the Missile Defense Agency backed up and said let's do this thing right, we have found a lot of problems. And I think the course of action on THAAD is the right one.

ABL, I can't comment on that at this point in time. I just haven't been that close to that program, as far as its technical capabilities, other than to understand there are technical hurdles to be overcome before making a decision to proceed with big dollars.

Mr. EVERETT. General Dodgen, on THAAD?

General DODGEN. Having been in Joint Theater Missile Defense Planner (JTMPD) at the time that THAAD was testing, there were some failures. But ultimately, before it went into further development, it was successful. And the reengineering is going to make it a much better system when it comes out. And so the Army is very optimistic about the THAAD and its performance and looking very closely at it over the next 12–18 months.

Mr. EVERETT. When is the next test?

General KADISH. The next test of THAAD?

Mr. EVERETT. Yes. I am sorry.

General KADISH. I will have to get the exact date, but we have a nonintercept first flight of the interceptor, I think, scheduled for September or October.

General DODGEN. And you know the capabilities it brings in the battle space it operates in will add another layer to our defenses, which is something we really seek dramatically, Congressman, as you well know.

Mr. EVERETT. I thank the gentlemen.

Mr. REYES.

Mr. REYES. Thank you, Mr. Chairman, and I wanted to pursue a little bit on THAAD because it is a program that I have very closely monitored and support. And when it was undergoing its initial failures, a lot of those failures, correct me if I am wrong, were quality control failures, a plug that wasn't put right, a wire that was frayed—I forget what the actual issues were.

So it wasn't the technology itself. It was quality control issues that ultimately became issues.

General Dodgen, remember a couple of days ago, I asked you the status on the report on fratricide issues, because we got a briefing, I guess, about a year ago. And my concern, as I expressed to you, was making sure that we know what went wrong and how do we fix it and those kinds of things. And you assured me that the report was, I think—

General DODGEN. Congressman, yes, if I may comment. Any fratricide is regrettable to any military man and we certainly believe that all of them are avoidable.

The operational environment in Iraqi Freedom was even more complicated than I experienced as a battalion commander in Desert Storm, with the addition of a very higher OPTEMPO (Operations Tempo) in the air space and in new threats.

So for that reason, Central Command (CENTCOM) is doing a very thorough investigation into those incidents, as are other services and other governments. And I believe that is on track in the near future to be released.

The first priority will be to give the notification to the families. And once that is done, I am sure we would be more than happy to come forward and give you all the details publicly.

Mr. REYES. Okay. Good, because that I think is common and vitally important to make sure we have it in the context of lessons learned and to fix them.

General DODGEN. There will be no stone unturned on that one.

Mr. REYES. Thank you, General.

The other question that I had—and I want to associate myself with the comments of the Chairman in the context of making sure that, whether it is ABL or the national missile defense system or anything that cost millions and billions of dollars, takes a great amount of money and effort invested.

And I would point out we recently had a very good example of that with the canceling of the Comanche. The program started in 1983, and after spending billions of dollars, we wind up canceling that program.

And I think the questions that are asked, not just by me, but other members of the committee, trying to get at the thinking or the strategy in deploying a system that hasn't been fully tested, a system that would, in effect—and I don't want to mischaracterize what I think Mr. Christie said, but one that would be further improved after deployment by doing testing, and that a system like that is better than no system at all.

My concern is that we have a system out there that gives us a false sense of security and that does not have the capabilities that it is intended to.

So I just wanted to make sure that all of you three gentlemen understood the perspective from where members are coming to you on this issue and why, frankly, the tough questioning. Because, we just went through the Comanche. And the reality of it is that it is a highly complex, technology-driven system, and there are a lot of questions as to whether or not it is a good idea to field it and then test it.

So, I don't know if you want to comment on that. I just wanted to make sure you understand that perspective.

General KADISH. Congressman Reyes, I want to assure you, at least on my behalf and the people in MDA, that we share the same concerns that you and the committee have on these issues.

However, we wouldn't be proposing what we are doing if we didn't believe that it was the right thing, given all the things that we know at this point in time, and we can always improve our management processes.

We are concerned about cost. And I think if you go back to 2001 in terms of the actions that have been taken by the department and MDA, we canceled the Navy area program, we restructured Space-based Infrared System (SBIRS) Low, we restructured ABL, we ended the RAMOS program, and there are many other things that we have done over the past few years to make sure that we were using our resources properly without extending it unnecessarily.

And in regard to whether or not the people would have a false sense of confidence in the system, I can also assure you that to the best of our technical ability, we are making sure that the combatant commanders and our political leaders from the secretary on down, understand what it is we have, and I can assure you it is not being overstated.

Mr. Christie and others will always be there to remind us when they have a different opinion.

Mr. REYES. Thank you, Mr. Chairman.

Mr. EVERETT. I thank the gentleman.

You mentioned SBIRS Low. And of course, we see a problem with SBIRS High also, and we will probably have some meetings with General Lord and Secretary Teets a little later to discuss that.

The situation as I see it, is while we have some tremendous problems in both ABL and SBIRS High, we can't fail. I don't see any options, particularly with SBIRS High. And that is the reason I want to try to put some 6.2 money somewhere, to back up what is going on with ABL and the new initiative that you mentioned.

We will have a number of written questions for you that we will submit for the record, but our problem is that we are going to have, like clockwork, votes about every 40 minutes, and with the agreement of my ranking member, I think we will adjourn this session.

And thank you for being here.

[Whereupon, at 12:22 p.m., the subcommittee was adjourned.]

A P P E N D I X

MARCH 25, 2004

PREPARED STATEMENTS SUBMITTED FOR THE RECORD

MARCH 25, 2004

Opening Statement
The Honorable Terry Everett
Chairman, Strategic Forces Subcommittee

*Hearing on the Fiscal Year 2005 National Defense Authorization
Budget Request for Missile Defense Programs*

March 25, 2004

The hearing will come to order.

The Strategic Forces Subcommittee meets today to receive testimony on the fiscal year 2005 budget request for missile defense programs.

It is a pleasure to welcome our witnesses this morning:

- Lieutenant General Ron Kadish, Director of the
Missile Defense Agency
- Lieutenant General Larry Dodgen,
Commanding General of the
U.S. Army Space and Missile Defense Command
- The Honorable Tom Christie
Director, Operational Test and Evaluation
Department of Defense

Gentlemen, we look forward to your testimony.

We have a lot of ground to cover today, and I want to allow each of our members an opportunity to ask as many questions as possible, so I will be brief. Likewise, I would ask our witnesses to please be brief with their prepared remarks – the entirety of your written testimony will be entered into the record.

General Kadish is here today to cover the Missile Defense Agency's budget request for 2005. That request is for \$9.1 billion and includes various program elements supporting the concept of "layered defenses". These include:

- Ground-based Midcourse Defense
- Aegis BMD
- Airborne Laser
- Kinetic Energy Interceptors, and
- THAAD

In December of 2002, the President announced the decision to begin fielding an initial capability by the end of 2004.

General Kadish and his team at the Missile Defense Agency have been working very hard to make the initial defensive operations a reality. This event represents a most significant milestone, building upon concepts first announced by President Reagan a little over twenty years ago. Since its inception, this subcommittee has displayed strong bipartisan support for fielding this initial defensive operations capability.

Interceptors are scheduled to be placed on alert this fall at Ft. Greely, Alaska. Our members will be very interested in hearing of your progress in fielding this initial capability as well as receiving an update on the status of other programs.

General Dodgen, from the Army's Space and Missile Defense Command, will cover the Army's \$1 billion budget request for

- the PATRIOT system
- the PAC-3 missile and,
- the Medium Extended Air Defense System known as MEADS.

The Honorable Tom Christie will provide the Department of Defense's perspectives on testing of missile defense systems. Mr. Christie, I know we all look forward to hearing your views on this topic, especially as it relates to fielding the initial defensive operations capability later this year.

Let me now recognize my good friend and colleague, Mr. Reyes, the ranking member of the subcommittee. Mr Reyes...

[Following Mr. Reye's remarks]

[Recognize Mr. Hunter and/or Mr. Skelton if present]

General Kadish, the floor is yours.

[Following General Kadish's testimony]

Thank you General Kadish. General Dodgen, the floor is yours.

[Following General Dodgen's testimony]

Thank you General Dodgen. Mr. Christie, the floor is yours.

[Following Mr. Christie's testimony]

Thank you Mr. Christie.

[Proceed with Q&A]

Thank you all for taking the time to be with us today. Your statements and comments will be very helpful as we consider the Administration's budget request.

The hearing stands adjourned.

Unclassified Statement of

Lieutenant General Ronald T. Kadish, USAF

Director, Missile Defense Agency

Before the

House Armed Services Committee

Strategic Forces Subcommittee

Regarding the

**Fiscal Year 2005 Defense Authorization
Ballistic Missile Defense**

Thursday, March 25, 2004

*Embargoed Until Released by the
Armed Services Committee
United States House of Representatives*



Lieutenant General Ronald T. Kadish
United States Air Force
Director, Missile Defense Agency

Lieutenant General Ronald T. Kadish is the director of the Missile Defense Agency (MDA), Office of the Secretary of Defense, Pentagon, Washington, DC. The MDA is Presidentially-chartered and mandated by Congress to acquire highly effective ballistic missile defense systems for forward-deployed and expeditionary elements of the U.S. Armed Forces. Additionally, MDA will develop options, and if directed, acquire systems for ballistic missile defense of the United States. As director, General Kadish is the Acquisition Executive for all Ballistic Missile Defense systems and programs.

The general entered the Air Force in 1970 after graduating from the Reserve Officer Training Corps program at St. Joseph's University. He was the program director for the F-15, F-16 and C-17 System Program offices, as well as director for manufacturing and quality assurance for the B-1B System Program Office. He is a senior pilot with more than 2,500 flying hours, primarily in the C-130. Before assuming his current position, he was commander, Electronic Systems Center, Air Force Materiel Command, Hanscom Air Force Base, MA. He was responsible for the Air Force's Center of Excellence for command and control systems, handling more than \$3 billion in programs annually.

EDUCATION:

1970 Bachelor of science degree in chemistry, St. Joseph's University, Philadelphia
 1975 Master's degree in business administration, University of Utah
 1975 Squadron Officer School, Maxwell Air Force Base, AL.
 1981 Distinguished graduate, Air Command and Staff College, Maxwell Air Force Base, AL.
 1988 Industrial College of the Armed Forces, Fort Lesley J. McNair, Washington, DC
 1990 Defense Systems Management College, Fort Belvoir, VA.

ASSIGNMENTS:

1. June 1970 - June 1971, student, undergraduate pilot training, Vance Air Force Base, OK
2. June 1971 - June 1974, C-130E pilot and instructor pilot, 62nd Tactical Airlift Squadron, Little Rock Air Force Base, AR
3. June 1974 - June 1976, wing operations staff officer, 314th Tactical Airlift Wing, Little Rock Air Force Base, AR

Kadish Biography, page 2

4. June 1976 - June 1977, Air Force Institute of Technology's Education-with-Industry, Vought Corp., Dallas
5. July 1977 - August 1980, subsystem co-production officer, F-16 System Program Office, Aeronautical Systems Division, Wright-Patterson Air Force Base, OH
6. August 1980 - June 1981, student, Air Command and Staff College, Maxwell Air Force Base, AL
7. June 1981 - March 1982, C-130E instructor pilot, 37th Tactical Airlift Squadron, Rhein-Main Air Base, West Germany
8. April 1982 - January 1983, wing and base chief, aircrew standardization and evaluation division, 435th Tactical Airlift Wing, Rhein-Main Air Base, West Germany
9. January 1983 - July 1984, operations officer, 37th Tactical Airlift Squadron, Rhein-Main Air Base, West Germany
10. July 1984 - September 1985, director for manufacturing and quality assurance, B-1B System Program Office, aeronautical systems division, Wright-Patterson Air Force Base, OH
11. September 1985 - July 1987, executive to the commander, Aeronautical Systems Division, Wright-Patterson Air Force Base, OH
12. July 1987 - July 1988, Student, Industrial College of the Armed Forces, Fort Lesley J. McNair, Washington, DC
13. June 1988 - July 1989, chief, program integration division, Office of the Secretary of the Air Force for Acquisition, Washington, DC
14. July 1989 - May 1990, military assistant to the Assistant Secretary of the Air Force for Acquisition, Office of the Secretary of the Air Force for Acquisition, Washington, DC.
15. May 1990 - September 1990, student, Defense Systems Management College, Fort Belvoir, VA
16. September 1990 - August 1992, F-15 program director, Aeronautical Systems Center, Wright-Patterson Air Force Base, OH
17. August 1992 - September 1993, F-16 program director, Aeronautical Systems Center, Wright-Patterson Air Force Base, OH
18. October 1993 - August 1996, program director for the C-17 System Program Office, Aeronautical Systems Center, Wright-Patterson Air Force Base, OH
19. August 1996 - June 1999, commander, Electronic Systems Center, Hanscom Air Force Base, MA
20. June 1999 - present, director, Missile Defense Agency (MDA), Office of the Secretary of Defense, Pentagon, Washington, DC

FLIGHT INFORMATION:

Rating: Senior pilot

Flight hours: More than 2,500

Aircraft flown: C-130, T-37, T-38, F-16, F-15, C-17

MAJOR AWARDS AND DECORATIONS:

Defense Distinguished Service Medal

Legion of Merit

Meritorious Service Medal with three oak leaf clusters

Air Medal

Air Force Commendation Medal with two oak leaf clusters

Air Force Outstanding Unit Award

Kadish Biography, page 3

Air Force Organizational Excellence Award with three oak leaf clusters

Combat Readiness Medal

Air Force Recognition Medal

National Defense Service Medal with service star

Air Force Overseas Ribbon - Long

Air Force Longevity Service Award Ribbon with seven oak leaf clusters

Small Arms Expert Marksmanship Ribbon

Air Force Training Ribbon

EFFECTIVE DATES OF PROMOTION:

Second Lieutenant June 3, 1970

First Lieutenant December 14, 1971

Captain December 14, 1973

Major November 28, 1979

Lieutenant Colonel March 1, 1985

Colonel September 1, 1989

Brigadier General September 1, 1993

Major General October 1, 1995

Lieutenant General August 16, 1996

(Current as of March 2003)

**Lieutenant General Ronald T. Kadish, USAF
Director, Missile Defense Agency
Missile Defense Program and Fiscal Year 2005 Budget
Before the
Strategic Forces Subcommittee
House Armed Services Committee
March 25, 2004**

Good morning, Mr. Chairman, Members of the Committee. It is an honor to be here today to present the Department of Defense's Fiscal Year (FY) 2005 Missile Defense Program and budget.

Today, I would like to outline what we are doing in the program, why we are doing it, and how we are progressing. I also will address why we proposed taking the next steps in our evolutionary development and fielding program. Then I want to emphasize the importance of the acquisition strategy we are using and close with some observations about testing and the Department's approach to Missile Defense Agency (MDA) management.

Our National Intelligence Estimates continue to warn that in coming years we will face ballistic missile threats from a variety of actors. The recent events surrounding Libya's admission concerning its ballistic missile and weapons of mass destruction programs remind us that we are vulnerable. Ballistic missiles armed with any type warhead would give our adversaries the capability to threaten or inflict catastrophic damage.

Our direction from the President is to develop the capability to defend the United States, our allies and friends, and deployed forces against all ranges of missiles in all phases of flight. This budget continues to implement that guidance in two ways.

First it continues an aggressive Research, Development, Test and Evaluation (RDT&E) effort to design, build and test the elements of a single Ballistic Missile Defense (BMD) system in an evolutionary way. Second, it provides for modest fielding of this capability over the next several years.

We recognize the priority our nation and this President ascribe to missile defense, and our program is structured to deal with the enormity and complexity of the task. The missile defense investments of four Administrations and ten Congresses are paying off. We are capitalizing on our steady progress since the days of the Strategic Defense Initiative and will present to our Combatant Commanders by the end of 2004 an initial missile defense capability to defeat near-term threats of greatest concern.

Ballistic Missile Defense System

Layered defenses help reduce the chances that any hostile missile will get through to its target. They give us better protection by enabling engagements in all phases of a missile's flight and make it possible to have a high degree of confidence in the performance of the missile defense system. The reliability, synergy, and effectiveness of the BMD system can be improved by fielding overlapping, complementary capabilities. In other words, the ability to hit a missile in boost, midcourse, or terminal phase of flight enhances system performance against an operationally challenging threat. See Chart 1.

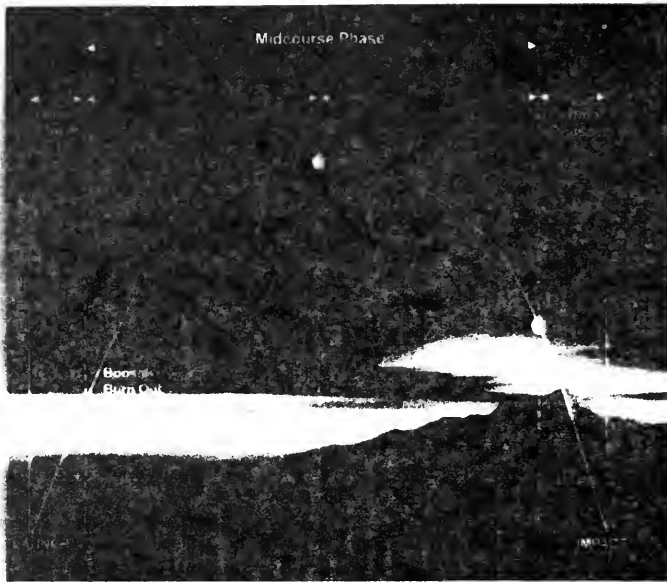


Chart 1: BMD System Engagement Phases

All of these layered defense elements must be integrated. And there must be a battle management, command and control system that can engage or reengage targets as appropriate. And it all must work within a window of a few minutes. We believe that a layered missile defense not only increases the chances that the hostile missile and its payload will be destroyed, but it also can be very effective against countermeasures and must give pause to potential adversaries.

So, beginning in 2001 we proposed development of a joint, integrated BMD system. Yet such unprecedented complexity is not handled well by our conventional acquisition processes. At that time, the Services had responsibility for independently developing ground-based, sea-based, and airborne missile defenses. The Department's

approach was element- or Service-centric, and we executed multiple Major Defense Acquisition Programs (MDAPs).

Today, as a result of defense transformation and a streamlined process instituted by the Secretary of Defense in 2001 to enhance overall integration, we are managing the BMD system as a single MDAP instead of a loose collection of Service-specific autonomous systems. We have come to understand over the years, though, that no one technology, defense basing mode, or architecture can provide the BMD protection we need. Redundancy is a virtue, and so we established a system-centric approach involving multiple elements designed, developed, and built with full integration foremost in our minds. When we made this change, we instituted a “capability-based” acquisition process instead of a “threat-based” process. Let me explain why this is important.

Most defense programs are developed with a specific threat—or threats—in mind. Twenty years ago, the ballistic missile threat was pretty much limited to Soviet intercontinental ballistic missiles (ICBMs) and sea-launched ballistic missiles. But today we have to consider a wide range of missile threats posed by a long list of potential adversaries. And those threats are constantly changing and unpredictable. Our potential adversaries vary widely in their military capabilities and rates of economic and technological development. Many of them have a tradition of political instability.

Weapon systems developed using a threat-based system are guided and governed by Operational Requirements Documents (ORDs). These documents establish hard thresholds and objectives for the development and deployment of every component. ORDs may be entirely appropriate for most development programs because they build

linearly on existing systems. For example, aircraft program managers understand lift and thrust from previous programs going all the way back to the Wright brothers.

Not so for missile defense. Most missile defense development takes place in uncharted waters. Any ORD developed for an integrated, layered missile defense system would be largely guesswork. ORDs rely on very precise definitions of the threat and can remain in effect for years, making this process all the more debilitating for the unprecedented engineering work we are doing. The reality that we may have to introduce groundbreaking technologies on a rapid schedule and also deal with threats that are unpredictable render the threat-based acquisition structure obsolete.

A capability-based approach relies on continuing and comprehensive assessments of the threat, available technology, and what can be built to do an acceptable job, and does not accommodate a hard requirement that may not be appropriate.

Perhaps the most telling difference between the two acquisition approaches is that our capabilities to perform are updated every four to eight months to reflect and accommodate the pace of our progress. We are no longer compelled to pursue a one hundred percent solution for every possible attack scenario before we can provide any defense at all. We are now able to develop and field a system that provides some capability that we do not have today with the knowledge that we will continue to improve that system over time. We call this evolutionary, capability-based development and acquisition.

Initial Defensive Capability—The Beginning

On 16 December 2002, President Bush directed that we begin fielding a missile defense system in 2004 and 2005. The President's direction recognizes that the first systems we field will have a limited operational capability. He directed that we field what we have, then improve what we have fielded. The President thus codified in national policy the principle of Evolutionary, Capability-Based Acquisition and applied it to missile defense.

The President's direction also builds on the 1999 National Missile Defense Act. Under this Act, deployment shall take place "as soon as technologically possible." The fact is that ballistic missile defense has proven itself technologically possible. Not only have most of the well-publicized flight tests been successful, but so have the equally important computer simulations and software tests. Those tests and upgrades will continue for a long time to come—long after the system is fielded and long after it is deemed operational. After all, this is the heart of evolutionary, capability-based acquisition. This is not a concept designed to trick or mislead. It is simply the logical response to the following question: Defenseless in the face of unpredictable threats, which would we rather have—some capability today or none as we seek a one hundred percent solution?

When we put the midcourse elements (GMD and Aegis BMD) of the BMD system on alert, we will have a capability that we currently do not have. In my opinion, a capability against even a single reentry vehicle has significant military utility. Even that modest defensive capability will help reduce the more immediate threats to our security

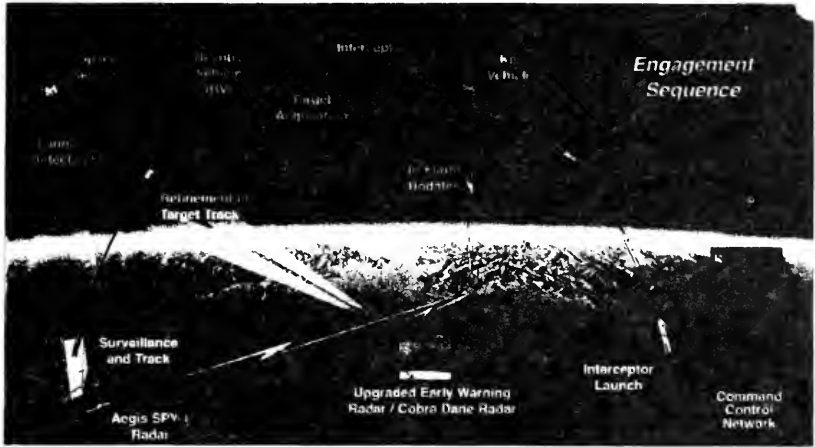
and enhance our ability to defend our interests abroad. We also may cause adversaries of the United States to rethink their investments in ballistic missiles. Because of this committee's continued support we will have some capability this year against near-term threats.

I must emphasize that what we do in 2004 and 2005 is only the starting point—the beginning—and it involves very basic capability. Our strategy is to build on this beginning to make the BMD system increasingly more effective and reliable against current threats and hedge against changing future threats.

We have made significant strides towards improving our ability to intercept short-range missiles. Two years ago we began sending Patriot Advanced Capability 3 (PAC-3) missiles to units in the field. Based on the available data, the Patriot system, including PAC-3, successfully intercepted all threatening short-range ballistic missiles during Operation Iraqi Freedom last year. Today, it is being integrated into the forces of our allies and friends, many of whom face immediate short- and medium-range threats. We believe it is the only combat-tested missile defense capability in the world.

This year we are expanding our country's missile defense portfolio by preparing for alert status a BMD system to defend the United States against a long-range ballistic missile attack. Chart 2 provides a basic description of how we could engage a warhead launched against the United States.

Chart 2: Engagement Sequence



Last year, we made it clear that this initial capability would be very basic if it were used. We also emphasized that instead of building a test bed that might be used operationally, we would field more interceptors and have them available for use while we continue to test. Because the test bed provides the infrastructure for this initial capability, the additional budget request for the twenty Block 2004 interceptors and associated support was about \$1.5 billion in FY 2004 and FY 2005.

Forces to be placed on alert as part of the initial configuration include up to 20 ground-based interceptors at Fort Greely, Alaska and Vandenberg AFB, an upgraded Cobra Dane radar on Eareckson Air Station in Alaska, and an upgraded early warning radar in the United Kingdom. We are procuring equipment for three BMD-capable Aegis cruisers with up to ten SM-3 missiles to be available by the end of 2005. The Navy is

working very closely with us on ship availability schedules to support that plan.

Additionally, ten Aegis destroyers will be modified with improved SPY-1 radars to provide flexible long-range surveillance and track capability of ICBM threats by the end of 2005, with an additional five destroyers with this capability by 2006, for a total of 15 Aegis BMD destroyers and three Aegis BMD cruisers.

The FY 2005 request funds important for Block 2006 activities to enhance those capabilities and system integration, which I will discuss in a moment.

The Missile Defense Agency, the Combatant Commanders, the Joint Staff, the Military Services, and the Director, Operational Test and Evaluation (DOT&E) are working together to prepare for Initial Defensive Operations (IDO). Using the core capability provided by Ground-based Midcourse Defense (GMD) and augmenting it with the appropriate Command, Control, Battle Management and Communications (C2BM/C) infrastructure between Combatant Commanders and exploiting the Aegis contribution in a surveillance and track mode, we have created an initial capability from which we can evolve.

Our current fielding plans have been built on the Test Bed configuration we proposed two years ago and are within 60 days of our schedule. Silo and facility construction at Fort Greely, Alaska and Vandenberg Air Force Base in California is proceeding well. Preparations at Eareckson Air Station in Shemya, Alaska are on track. Over 12,000 miles of fiber optic cables connecting major communication nodes are in place, along with nine satellite communications links. We are in the process of upgrading the Early Warning Radar at Beale Air Force Base and are well underway building the

sea-based X-band radar. Our brigade at Schriever Air Force Base and battalion fire control nodes at Fort Greely are connected to the Cheyenne Mountain Operations Center. The C2BM/C between combatant commanders, so essential to providing situational awareness, is progressing well and is on schedule. Upgrades to the Cobra Dane Radar are ahead of schedule. The Chief of Naval Operations has identified the first group of Aegis ships to be upgraded with a BMD capability, and the work to install the equipment on the first of these ships has begun.

Once the system is placed on alert, we will continue to conduct tests concurrently to gain even greater confidence in its operational capability. Additionally, we plan activities to sustain the concurrent test and operations and support of the system. We are laying in the infrastructure to build, test, sustain, and evolve our system as a part of the capabilities-based approach inherent in our strategy.

An integral working relationship with the warfighter, the BMD system user, is critical to the success of this mission. We are working together to ensure that we field a system that is militarily useful and operationally supportable and fills gaps in our defenses. The support centers we are establishing will provide critical training to commanders in the field. The necessary doctrines, concepts of operation, contingency plans, and operational plans are being developed under the lead of U.S. Strategic Command (USSTRATCOM) and in cooperation with U.S. Northern Command, Pacific Command, European Command, and United States Forces in Korea.

Improving Fielded Capability Through Evolutionary Acquisition

The system's evolutionary nature requires us to look out over the next three or four years and beyond in our planning. Although it is not easy, we have laid out a budget and a plan to shape the missile defense operational architecture beyond the Block 2004 initial defensive capability.

In this budget, beginning with Block 2006 we will increase GMD Ground-Based Interceptors (GBIs) and Aegis SM-3 interceptors, deploy new capabilities (such as THAAD), expand our sensor net (with a second sea-based midcourse radar and forward deployable radars), and enhance the C2BM/C system integration. The FY 2005 request begins to fund important Block 2006 activities to enhance existing capabilities and system integration. Our improvement plan is to add up to ten GBIs to the site at Fort Greely and possibly initiate long-lead acquisition of up to ten more for fielding at a potential third site or at Fort Greely. We will continue to augment our sea-based force structure with additional SM-3 interceptors and BMD-capable Aegis-class ships.

Much of this system augmentation effort involves extending and building on capabilities that we have been working on over the past several years, so I am confident that what we are doing is both possible and prudent and in line with our missile defense vision.

The confidence we achieve through our entire test program is reinforced by the fact that many missile defense test articles fielded in the existing test bed are the same ones we would use in an operational setting. Except for interceptors, which are one-time use assets, we will use the same sensors, ships, communications links, algorithms, and

command and control facilities. The essential difference between an inherent capability in a test bed and the near-term on-alert capability is having a few extra missiles beyond those needed for testing and having enough trained operators and logistics on hand and ready to respond around the clock. Once we field the system, we will be in a better position, literally, to test system components and demonstrate BMD technologies in a more rigorous, more operationally realistic environment. Testing will lead to further improvements in the system and refinement of our models, and the expansion and upgrades of the system will lead to further testing.

The system we initially will put on alert is modest. It is modest not because the inherent capabilities of the sensors and interceptors themselves are somehow deficient, but rather because we will have a small quantity of weapons. The additional ten missiles for Fort Greely will improve the overall system by giving us a larger inventory. Yet today, and over the near-term, we are inventory poor. Block activities throughout the remainder of this decade will be focused in part on improving the system by delivering to the warfighter greater capabilities with improved performance.

Why is this important? In a defense emergency or wartime engagement situation, more is better. A larger inventory of interceptors will handle more threatening warheads. Our planning beyond the Block 2004 initial configuration has this important warfighting objective in mind. There are no pre-conceived limits in the number of weapon rounds we should buy. We will build capabilities consistent with the national security objectives required to effectively deter our adversaries and defend ourselves and our allies.

We also must think beyond the initial defensive capability if we are to meet our key national security objective of defending our friends and allies from missile attack. In Block 2006, we are preparing to move forward when appropriate to build a third GBI site at a location outside the United States. Not only will this site add synergy to the overall BMD system by protecting the United States, but it will put us in a better position to defend our allies and friends and troops overseas against long-range ballistic missiles. For the cost of ten GBIs and associated infrastructure, we will be able to demonstrate in the most convincing way possible our commitment to this critical mission objective. The location of this site is still subject to negotiation with no final architecture defined nor investment committed until FY 2006.

As I have said all along, we are not building to a grand design. We are building an evolutionary system that will respond to our technical progress and reflect real world developments. We added about \$500 million to last year's projected FY 2005 budget estimate to begin funding our Block 2006 efforts. As you can see, the system can evolve over time in an affordable way in response to our perception of the threat, our technical progress, and our understanding of how we want to use the system. Yet even as it does evolve, our vision remains constant—to defeat all ranges of missiles in all phases of flight.

Testing Missile Defenses—We Need To Build It To Test It

Another key question surrounds the nature of missile defense systems themselves. How do you realistically test an enormous and complex system, one that covers eight

time zones and engages enemy warheads in space? The answer is that we have to build it as we would configure it for operations in order to test it. That is exactly what we are doing by building our test bed and putting it on alert this year.

By hooking it all up and putting what we have developed in the field, we will be in a better position to fine-tune the system and improve its performance. Testing system operational capability in this program is, in many ways, different from operational testing involving more traditional weapon systems. All weapon systems should be tested in their operational environments or in environments that nearly approximate operational conditions. This is more readily accomplished for some systems, and is more difficult to do for others.

For example, an aircraft's operational environment is the atmosphere. Similarly, when we conduct rigorous operational tests of our Navy's ships, we do so at sea – in their environment. The BMD system's operational environment is very different. It is a geographically dispersed region that is also a test bed. For both missile defense testing and operations, geography counts. After we have gone through the simulations, the bench tests, and the flybys, we want to test all missile defense parts together under conditions that are as nearly operationally realistic as we can make them – with sensors deployed out front, with targets and interceptors spaced far enough apart to replicate actual engagement distances, speeds and sequences, with communication links established, and with command and control elements in place. We in fact have conducted a number of events that exercise the projected communication and command and control paths required to link elements of the BMD system in what we call "Engagement

Sequence Groups,” building our confidence that we can combine threat data from different systems across a third of the globe to allow for the engagement of ballistic missiles threats to the entire United States.

One of the key questions that we have to answer is: What is the role of operational testing in an unprecedented, evolutionary, capability-based program? The answer is that the Director, Operational Test and Evaluation, and the Operational Test Agencies play a critical role in missile defense. Since evolutionary, capability-based processes do not fit the traditional ORD-based operational test methodology, we have applied an assessment approach that provides for a continuous assessment of the capabilities and limitations of the BMD system. Since testing is central to our RDT&E program and our operational understanding of the system, we are continuing to modernize and improve our test infrastructure to support more operationally realistic testing.

We are working very closely with Mr. Christie, the DOT&E, and the operational test community. As our tests are planned, executed, and evaluated, the BMD system Combined Test Force, which brings together representatives from across the testing community, is combining requirements for both developmental and operational capability testing. Wherever possible we are making every test both operationally realistic and developmental. We have been working daily with the appropriate independent operational test agencies (OTA) to ensure they are on board with our objectives and processes. There are approximately 100 operational test personnel embedded in all facets of missile defense test planning and execution who have access to all of our test data. They have the ability to influence every aspect of our test planning and execution.

Now, how much confidence should we have in using this test bed in an alert status? The full range of missile defense testing—from our extensive modeling and simulation and hardware-in-the-loop tests to our ground and flight testing—makes us confident that what we deploy will work as intended. We do not rely on intercept flight tests to make final assessments concerning system reliability and performance. Our flight tests are important building blocks in this process, but the significant costs of these tests combined with the practical reality that we can only conduct a few tests over any given period of time mean we have to rely on other kinds of tests to prove the system. System capabilities assessed for IDO will be based on test events planned for FY 2004 as well as data collected from flight- and ground tests and simulations over the past several years.

The missile defense test program helps define the capabilities and limitations of the system. The thousands of tests we conduct in the air, on the ground, in the lab, and with our models and simulations in the virtual world predict system performance and help identify problems so that we can fix them. They also highlight gaps so that we can address them. This accumulated knowledge has and will continue to increase our confidence in the effectiveness of the system and its potential improvements. None of our tests should act as a strict “pass-fail” exercise telling us when to proceed in our development or fielding. We can approximate realistic scenarios, though, after we have put interceptors and sensors in the field and integrated them with our C2BM/C network.

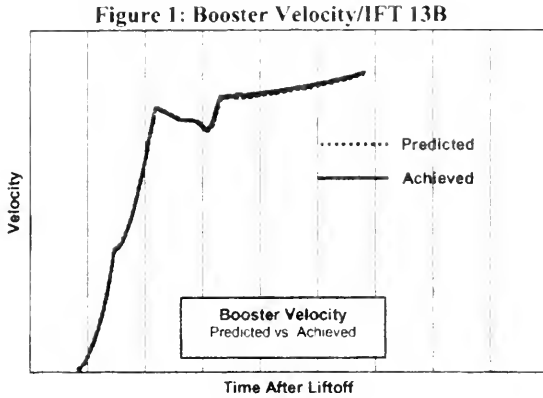
We conduct other kinds of tests that provide valuable information about the progress we are making and the reliability of the system. Integrated ground tests, for example, are not subject to flight test restrictions and can run numerous engagement

scenarios over the course of a few weeks. Our modeling and simulation activity is an even more powerful system verification tool. It is important to understand that in the Missile Defense Program we use models and simulations, and not flight tests, as the primary verification tools. This approach is widely used within the Department, especially when complex weapon systems are involved.

Currently, we have very good models for each one of our system components, and we are able to use these together to run scenarios so that we can understand the environments within which we operate and characterize the margin we have in the system design. Missile defense ground and flight tests anchor the data we produce in our models, which in turn enhance our confidence regarding the operational capability we can achieve, because we can understand the system's behavior in many hundreds of test runs. These models are regularly updated using test data from our ground and flight tests. Over time we are building up our modeling and simulation capability at the system level to approximate more closely the type of end-to-end testing we would like to have to verify that the system is doing what we want it to do.

For example, our modeling and simulation capabilities are very accurate and allow us to mirror the achieved outcome of a flight test. The graphic below provides an example of why we believe our simulation capabilities to be the most powerful tools for projecting the reliability of the initial BMD system. In Figure 1 we have mapped out the predicted performance of the Integrated Flight Test 13B interceptor and matched it up with performance data we collected during the flight. The match up is nearly exact, and

it shows that the Exo-atmospheric Kill Vehicle Mass Simulator was very close to the predicted insertion point velocity.



Generally, when we deploy a weapon system in a traditional mission area, it is appropriate to conduct initial operational testing to ensure that the replacement system provides a better capability than the existing system. Put another way, there is a presumption that the deployed system should be used until a better capability is proven. In the current situation, where we have no weapon system fielded to defend the United States against even a limited attack by ICBMs, that presumption must be re-examined. With the provision of a militarily useful capability, even if it is limited, it is presumed that the capability can be fielded unless it is determined that operating the initial capability is considered to be an unacceptable danger to the operators, or any other similar reality.

USSTRATCOM will factor in all available test information into its military utility assessment of the fielded condition.

Ballistic Missile Defense System Research and Development Program

We have requested \$7.6 billion in FY 2005 to continue our investment in missile defense RDT&E. Why do we need this level of investment in RDT&E? We need to press forward with our missile defense research and development if we are to improve the system by integrating upgraded or more advanced components and by exploiting new basing modes to engage threat missiles in, for example, the boost phase of flight. We have to lay the RDT&E foundation for evolutionary improvements to the BMD system. We intend to improve the capability of the midcourse phase while adding additional layers.

The RDT&E program is working. The ability to make trade-offs among our development activities has allowed us to focus on the development of the most promising near-term elements, namely, GMD, Aegis BMD and PAC-3. GMD and Aegis BMD make up elements of the midcourse defense layer while PAC-3 provides capability in the terminal layer. The GMD FY 2005 budget request is \$3.2 billion; the request for Aegis is \$1.1 billion.

In this budget we increase investment in the development of a boost layer. Two program elements, a high energy laser capability and a new kinetic energy interceptor (KEI) or "hit to kill" capability, represent parallel paths and complement each other. Achieving capability in the boost phase as soon as practicable would be a revolutionary, high-payoff improvement to the BMD system. Although the technologies are well known, the engineering and integration required to make them work are very high risk. Therefore, having parallel approaches, even on different timelines, is a very prudent

program management approach. We expanded our efforts in the boost phase as soon as we were able after withdrawal from the 1972 Anti-Ballistic Missile (ABM) treaty, which specifically prohibited boost phase development against long-range missiles.

The Airborne Laser (ABL) program has been in development since 1996.

Development of an operational high energy laser for a 747 aircraft is a difficult technical challenge. Although we have had many successes in individual parts of the program, we have not been able to make some of our key milestones over the past year. The last 20% of the program effort has proven to be very difficult, and some of the risks we took early in the program have impaired our present performance. Consequently, I reviewed the program late last year and directed a restructure that focused on our near-term efforts, delaying the procurement of the second aircraft until we could gain more confidence in our ability to meet schedules. I have adjusted the resources accordingly.

We no longer plan for ABL to deliver a contingency capability in Block 2004.

There have been, nevertheless, several technical accomplishments to date. We have demonstrated the capability to track an ICBM in the boost phase using ABL technologies and improved beam control and fire control technologies. At this time there is no reason to believe that we will fail to achieve this capability. This is such a revolutionary and high payoff capability; I believe we should again be patient as we work through the integration and test activities. But the risks remain high. The FY 2005 budget request is \$474 million for ABL.

We undertook the KE boost effort in response to a 2002 Defense Science Board Summer Study recommendation. In December 2003 we awarded the contract for

development of the KEI boost effort. This was the first competition unconstrained by the ABM Treaty. It was also the first to use capability-based spiral development as a source selection strategy. The contract requires development of a boost phase interceptor that is terrestrial-based and can be used in other engagement phases as well—including the midcourse and possibly exo-atmospheric terminal phases. In other words, it could provide boost phase capability as well as an affordable, competitive next-generation replacement for our midcourse interceptors and even add a terminal phase capability should it be required. In 2005, we will begin conducting Near-Field Infrared Experiments to get a close-up view from space of rocket plumes to support the development of the terrestrial-based interceptor seeker and provide additional data needed for the development of a space test bed.

We have budgeted about \$500 million for the KE boost effort for FY 2005. I believe this funding is necessary for a successful start. Those who would view this amount as a significant increase that is unwarranted for a new effort do not understand the importance of prudent programming and the preparatory work required to make such a program ultimately succeed. There are many examples of an under-funded systems engineering effort, where engineering costs sky-rocketed because adequate upfront work was not done. Mr. Chairman, I urge the committee to look carefully at our proposal and allow us to get a solid start on this essential piece of the layered BMD system.

Other Budget Highlights

Funding in the FY 2005 request supports the Block 2004 initial configuration as well as activities to place the BMD system on alert. It also lays the foundation for the future improvement of the system. We are requesting \$9.2 billion to support this program of work, which is approximately a \$1.5 billion increase over the FY 2004 request. The increase covers costs associated with fielding the first GMD, Aegis BMD, sensor, and command, control and battle management installments and will allow us to purchase long-lead items required for capability enhancements in Block 2006.

We have made a successful transfer of the PAC-3 program to the Army and remain convinced that the Department made the right decision in doing so. In the Patriot system, missile defense and air defense are so intertwined that attempting to manage them separately would be difficult if not futile. We continue to believe that the Army is in the best position, given the maturity of the PAC-3, to manage future enhancements and procurements. Meanwhile MDA remains fully cognizant of the Army's efforts and maintains the PAC-3 in the BMD system as a fully integrated element, with interfaces controlled by our configuration management process. PAC-3 is part of our ongoing system development and testing.

The FY 2005 funding request will buy equipment to ramp up the testing of THAAD, which, once fielded, will add endo-atmospheric and exo-atmospheric terminal capabilities to the BMD system to defeat medium-range threats. Terminal High Altitude Area Defense (THAAD) is progressing well and will add capabilities to engage in the late midcourse and terminal layers. THAAD recently completed the Design Readiness

Review, and development hardware manufacturing is underway. The FY 2005 budget request is \$834 million for THAAD. Delivery of the THAAD radar was completed ahead of schedule and rolled out this month. Flight testing is scheduled to begin in the first quarter of FY 2005 at White Sands Missile Range, New Mexico.

We will be able to begin assembly and integration of two Space Tracking and Surveillance System (STSS) satellites. The FY 2005 budget request for STSS is \$322 million.

We will continue development of the C2BM/C “backbone” to provide real-time sensor-netting to the warfighter for improved interoperability and decision-making capability. Additional BMD system C2BM/C suites and remote capability will be deployed to Combatant Commanders as the system matures.

We also have several Science and Technology initiatives to increase BMD system firepower and sensor capability and extend the engagement battle space of terminal elements. One of our main efforts is to increase BMD system effectiveness in the midcourse phase by placing Multiple Kill Vehicles on a single booster, thus reducing the discrimination burden on BMD sensors. We also are conducting important work on advanced systems to develop laser technology and laser radar, advanced discrimination, improved focal plane arrays, and a high-altitude airship for improved surveillance, communication, and early warning. In support of this, we have requested about \$200 million in the FY 2005 budget request for the development of advanced systems.

International Partnerships

In December 2003, through a formal Cabinet Decision, the Government of Japan became our first ally to proceed with acquisition of a multi-layered BMD system, basing its initial capability on upgrades of its Aegis destroyers and acquisition of the SM-3 missile. In addition, Japan and other allied nations will upgrade their Patriot units with PAC-3 missiles and improved ground support equipment. We have worked closely with Japan since 1999 to design and develop advanced components for the SM-3 missile. This project will culminate in flight tests in 2005 and 2006 that incorporate one or more of these components. These decisions represent a significant step forward with a close ally and we look forward to working together on these important efforts.

We are undertaking major initiatives in the international arena in this budget. Interest among foreign governments and industry in missile defense has risen considerably over the past year. We have been working with key allies to put in place mechanisms that would provide for lasting cooperative efforts.

We will begin in FY 2005 to expand international involvement in the program by encouraging international industry participation and investment in the development of alternative boost/ascent phase element components, such as the booster, kill vehicle, launcher, or C2BM/C. This approach reduces risk, adds options for component evolution for potential insertion during Block 2012, and potentially leads to an indigenous overseas production capability. We intend to award a contract for this effort this year.

In 2003 the United States signed a Memorandum of Understanding on Ballistic Missile Defense with the United Kingdom and an annex enabling the upgrade of the

Fylingdales early warning radar. We are continuing our consultations with Denmark regarding the upgrade of the Thule radar site in Greenland. Australia has announced plans to participate in our efforts, building on its long-standing defense relationship with the United States. Canada also has entered into formal discussion on missile defense and is considering a BMD role for the U.S.-Canadian North American Aerospace Defense Command (NORAD). Our North Atlantic Treaty Organization partners have initiated a feasibility study for protection of NATO territory against ballistic missile attacks, which builds upon ongoing work to define and develop a NATO capability for protection of deployed forces.

We are continuing work with Israel to implement the Arrow System Improvement Program and enhance its missile defense capability to defeat the longer-range ballistic missile threats emerging in the Middle East. We are also establishing a capability in the United States to co-produce specified Arrow interceptor missile components, which will help Israel meet its defense requirements more quickly and maintain the U.S. industrial work share. We are intent on continuing U.S.-Russian collaboration and are now working on the development of software that will be used to support the ongoing U.S.-Russian Theater Missile Defense exercise program.

We have other international interoperability and technical cooperation projects underway as well and are working to establish formal agreements with other governments. Our international work is a priority that is consistent with our vision and supportive of our goals.

World-Class Systems Engineering—The Key Success Factor

The President's direction to defeat ballistic missiles of all ranges in all phases of flight drove us to develop and build a single integrated system of layered defenses and forced us to transition our thinking to become more system-centric. We established the Missile Defense National Team to solve the demanding technical problems ahead of us and capitalize on the new engineering opportunities created by our withdrawal from the ABM Treaty. The National Team brings together the best, most experienced people from the military and civilian government work forces, industry, and the federal laboratories to work aggressively and collaboratively on one of the nation's top priorities. No single contractor or government office has all the expertise needed to design and engineer an integrated and properly configured BMD system. Let me give a perspective on why the National Team is so important.

What we have accomplished is an unprecedented integration of sensors communications infrastructure, and weapons that cut across Service responsibilities on a global scale. Even our first engagement sequence involves an unparalleled accomplishment.

The BMD system will engage a long-range ballistic missile threat across 9,500 miles. Threat messages sent by an Aegis destroyer will pass this data across eight BMD system communication nodes. System data travels across approximately 48,000 miles of communication lines. The engagement takes place 3,500 from Fort Greely at an altitude of 100 kilometers. At no time in history has there been an engagement performed by detection and weapon engagement systems separated by such distances. Over the past

year and a half, we have rapidly built confidence in this weapon engagement capability through the use of proven systems and technologies coupled with robust integrated tests and exercises.

The National Team's job has not been easy. System engineers work in a changed procurement and fielding environment, which in the missile defense world means making engineering assessments and decisions based on technical objectives and goals and possible adversary capabilities rather than on specifications derived from more traditional operational requirements documents. This unified industry team arrangement does not stifle innovation or compromise corporate well-being. There is firm government oversight and greater accessibility for all National Team members to organizations, people, and data relevant to our mission. We accomplished this without abandoning sound engineering principles, management discipline, or accountability practices.

Significant benefits have resulted from this unique approach. Early on, this team brought to the program several major improvements, including: system-level integration of our command and control network; adoption of an integrated architecture approach to deal with countermeasures; development of a capability-requirement for forward-based sensors, such as the Forward Deployable Radar and the Sea-Based X-Band Radar; and identification of initial architecture trades for the boost/ascent phase intercept mission. The National Team also developed and implemented an engagement sequence group methodology, which optimizes performance by looking at potential engagement data flows through the elements and components of the system independent of Service or element biases. If we had retained the traditional element-centric engineering approach, I

am doubtful that any one of the element prime contractors would have entertained the idea of a forward-based radar integrated with a “competing” system element. The National Team is central to this program.

Responsible and Flexible Management

Congressional support for key changes in management and oversight have allowed us to execute the Missile Defense Program responsibly and flexibly by adjusting the program to our progress every year, improving decision cycle time, and making the most prudent use of the money allocated to us.

One of the key process changes we made in 2001 was to engage the Department’s top leadership in making annual decisions to accelerate, modify, or terminate missile defense activities. We take into account how each development activity contributes to effectiveness and synergy within the system, technical risk, schedules, and cost, and we then assess how it impacts our overall confidence in the effort. We have successfully used this process over the past three years.

Today’s program is significantly different from the program of three years ago. In 2001 and 2002 we terminated Space-Based Laser development in favor of further technology development; restructured the Space-Based Infrared Sensors (Low) system, renaming it the Space Tracking and Surveillance System, to support more risk reduction activities; cancelled the Navy Area program following significant cost overruns; and accelerated PAC-3’s deployment to the field. We also proposed a modest beginning in fielding the BMD system and put Aegis BMD and its SM-3 interceptor on track to field.

This year we have restructured the ABL program to deal more effectively with the technical and engineering challenges before us and make steady progress based on what we know. We also decided to end the Russian-American Observation Satellite (RAMOS) project because of rising levels of risk. After eight years of trying, RAMOS was not making the progress we had expected in negotiations with the Russian Federation. So we are refocusing our efforts on new areas of cooperation with our Russian counterparts.

These periodic changes in the RDT&E program have collectively involved billions of dollars—that is, billions of dollars that have been invested in more promising activities, and billions of dollars taken out of the less efficient program efforts. The ability to manage flexibly in this manner saves time and money in our ultimate goal of fielding the best defenses available on the shortest possible timeline.

Such decisive management moves were made collectively by senior leaders in the Department and in MDA. I believe these major changes are unprecedented in many respects and validate the management approach we put in place. The benefits of doing so are clearly visible today. When something is not working or we needed a new approach, we have taken action.

Closing

Mr. Chairman, I would like to recognize the many talented and dedicated people across this country who have made, and are continuing to make, our efforts successful. I have met with people from manufacturing facilities, R&D centers, and test centers. I

have met with people from many different parts of the world who are working on our international efforts. Our fellow citizens should be proud of the talent, commitment, and dedication that every one of these people provides.

We take our responsibilities very seriously. We have an obligation to the President, the Congress, and the American people to get it right. With the continued strong support of Congress and this committee, we will continue our progress in defending the United States, our troops, and our allies and friends against all ranges of ballistic missiles in all phases of flight.

Thank you, and I look forward to your questions.

RECORD VERSION

STATEMENT BY

LIEUTENANT GENERAL LARRY J. DODGEN, USA

COMMANDING GENERAL,
U.S. ARMY SPACE AND MISSILE DEFENSE COMMAND
AND
U.S. ARMY FORCES STRATEGIC COMMAND

BEFORE THE

COMMITTEE ON ARMED SERVICES
STRATEGIC FORCES SUBCOMMITTEE
UNITED STATES HOUSE OF REPRESENTATIVES

SECOND SESSION, 108TH CONGRESS

MARCH 25, 2004

NOT FOR PUBLICATION
UNTIL RELEASED BY THE
COMMITTEE ON ARMED SERVICES

Lieutenant General Larry J. Dodgen
Commanding General
U.S. Army Space and Missile Defense Command/
U.S. Army Forces Strategic Command

Lieutenant General Larry J. Dodgen assumed command of the U.S. Army Space and Missile Defense Command / U.S. Army Forces Strategic Command (USASMDC/ARSTRAT) on December 16, 2003.



Born in New Orleans, La., General Dodgen graduated from Louisiana State University in 1972 with a bachelor's degree in Chemical Engineering. He also holds an MBA in Public Administration from the University of Missouri and a master's degree in National Security and Strategy from the United States Naval War College. His military education includes the Air Defense Officer Basic and Advanced Courses, the U.S. Army Command and General Staff College, and the U.S. Naval War College.

General Dodgen began his military career as Section Leader and later Platoon Leader, Battery A, 1st Battalion, 68th Air Defense Artillery, 1st Cavalry Division, Fort Hood, Texas. In 1975, he was assigned as a Firing Platoon Leader, 2d Battalion, 71st Air Defense Artillery, Eighth United States Army in Korea. While in Korea, he became the Aide-de-Camp to the Commanding General, 38th Air Defense Artillery. After returning to the United States, he served as Aide-de-Camp to the Assistant Commandant, U.S. Army Air Defense Artillery School, Fort Bliss, Texas. He later commanded Battery C, 1st Battalion, 7th Air Defense Artillery, Fort Bliss, Texas. In 1981 and 1982, General Dodgen commanded Battery A and served as the Assistant S-3 (Operations), 3d Battalion, 61st Air Defense Artillery, 3d Armored Division in Germany. In 1984, he was assigned to the U.S. Army Chemical School, Fort McClellan, Ala., as an NBC Analyst and later became Chief of the Studies Branch. In 1987, he became the Executive Officer, 6th Battalion, 43d Air Defense Artillery, in Germany. From June 1989 to December 1991, he commanded 8th Battalion, 43d Air Defense Artillery, and led his battalion into combat in Saudi Arabia during OPERATION DESERT STORM. In 1993, he returned to Germany to command the 69th Air Defense Artillery Brigade. While in Germany, he also became the Chief of the CINC's Initiatives Group, Office of the Command-in-Chief, U.S. Army Europe. After assuming the rank of Brigadier General in 1996, he became the sixth Deputy Assistant Secretary of Defense for Policy and Missions. From May 1998 to September 2001, he was the Director, Joint Theater Air and Missile Defense Organization (JTAMDO). From September 2001 to December 2003, he was the Commanding General of the U.S. Army Aviation and Missile Command (AMCOM).

General Dodgen's military decorations and awards include the Defense Distinguished Service Medal with Oak Leaf Cluster, Legion of Merit (two Oak Leaf Clusters), Meritorious Service Medal (four Oak Leaf Clusters), Army Commendation Medal, and the Army Achievement Medal.

**Lieutenant General Larry J. Dodgen, USA
Commanding General
U.S. Army Space and Missile Defense Command
And
U.S. Army Forces Strategic Command**

Introduction

Mr. Chairman, Congressman Reyes, and other attending Members, thank you for the opportunity to appear before this distinguished panel and for your ongoing support of our Army. This Committee has been a great friend of the Army, particularly of our efforts to field missile defense forces for the Nation. The Army considers it a privilege to be counted in the ranks with Mr. Christie and Lieutenant General Kadish as advocates for a strong global missile defense system. Today, I appear before this committee as the Army proponent for the Ground-based Midcourse Defense (GMD) System. In a broader context, I am a member of the joint missile defense team as the Army Component Commander in support of the United States Strategic Command, and the joint user representative working closely with the Missile Defense Agency, other services, and combatant commanders to ensure that our national goals of developing, testing and deploying an integrated missile defense system are met.

Mr. Chairman, as we speak, Army men and women are training to operate the GMD System being deployed at Fort Greely, Alaska. During the past few months, an initial cadre of the GMD Brigade and a subordinate GMD Battalion were activated. Once Initial Defensive Capabilities are stood up, these Soldiers will stand as part of the joint team in our Nation's first line of defense against any launch, either accidental or hostile, of an intercontinental ballistic missile toward our shores. I am proud to represent them. Meeting their needs, in training and support, is our highest priority.

Air and Missile Defense—an Overview of the Fiscal Year 2005 Army's Budget Submission

In addition to deploying a GMD System, the Missile Defense Agency, the Army, and other DoD Agencies and Services have focused attention on improving Theater Air and Missile Defense (TAMD) Systems. Both GMD and TAMD Systems are vital for protecting our homeland, deployed forces, friends and allies. Air and missile defense is a key component in support of the Army's core competency of providing relevant and ready land power to Combatant Commanders as part of the Joint Force.

Today, I have been asked about, and I am happy to focus on, the Army's Fiscal Year 2005 budget submission for air and missile defense (AMD) systems. The President's Budget, presented to the Congress last month, includes approximately \$1.4 billion that the Army proposes to use to perform current Army AMD responsibilities and focus on further development and enhancement of both terminal phase and short-range AMD systems. In short, the Army and the ballistic missile defense community are continuing to improve the ability to intercept and destroy air, theater, and cruise missile threats.

Terminal Phase Ballistic Missile Defenses

The Fiscal Year 2005 budget request includes integrating the development and fielding of Medium Extended Air Defense System (MEADS) capabilities into PATRIOT in a cost efficient manner. The PATRIOT/MEADS capability is designed to counter theater ballistic missile threats in their terminal flight phase as well as cruise missile and other air breathing threats. These systems along with the planned fielding of the Terminal High Altitude Air Defense System bring an unprecedented umbrella of security for deployed U.S. forces, friends, and allies well into the future.

PATRIOT/PAC 3 Overview

Mr. Chairman, since the debut of the PATRIOT Air and Missile Defense System in combat during OPERATION DESERT STORM, the Army has continued to implement a series of improvements to address the lessons learned. During OPERATION IRAQI FREEDOM (OIF), we saw the improved PATRIOT Configuration-3 system, including the effective use of the Guidance Enhanced Missile (GEM) and the PATRIOT Advanced Capability 3 (PAC-3) missile. There is no doubt that during OIF, PATRIOT saved lives defending against Iraqi ballistic missile attacks.

The PATRIOT system remains the Army's premier theater air and missile defense system. PAC-3 is the latest evolution of the phased material change improvement program to PATRIOT. Combining developmental testing and operations, this program has allowed for the development and deployment of the PAC-3, thus bringing a new high-velocity, kinetic hit-to-kill, surface-to-air missile with the range, accuracy, and lethality necessary to effectively intercept and destroy more sophisticated ballistic missile threats. The PATRIOT/PAC-3 research, development, and acquisition budget request for Fiscal Year 2005 is \$687.8 million. This budget request continues the minimum necessary PATRIOT development to keep the system viable as we pursue acceleration of MEADS capabilities, procures 108 PAC-3 missiles, and purchases spares for the system.

MEADS Overview

MEADS is a tri-National co-development program with Italy, Germany, and the United States. Once fielded, MEADS will provide linkage to the Army's fully networked battle command capabilities, serve as a bridge from the current to the future force, enable interdependent network-centric warfare, support interoperability with the Army's Future Force as well as the BMDS, and fully support Joint operating concepts.

The MEADS system is transformational—it offers a significant improvement in strategic deployability and tactical mobility. The system uses a

netted and distributed architecture with modular and configurable battle elements allowing it to integrate with other Army and Joint sensors and shooters. These features and capabilities will allow MEADS to achieve a robust 360-degree defense against all airborne threats: theater ballistic missiles, cruise missiles, unmanned aerial vehicles, and manned aircraft. This year's budget includes \$264.5 million for continued MEADS design and development.

Combined PATRIOT/MEADS Approach

Recently, the Army, after approval by the Defense Acquisition Executive, embarked on a path to merge the PATRIOT and MEADS programs. In so doing, the PATRIOT/MEADS Combined Aggregate Program (CAP) was established. The purpose of the CAP is to achieve the objective MEADS capability through incremental fielding of MEADS major end items into PATRIOT.

Mr. Chairman, by combining the research and development resources available to both the PATRIOT and MEADS programs, the Army is able to accelerate incremental fielding of transformational MEADS capabilities into the force. This incremental fielding approach reduces sustainment costs while delivering increased anti-missile defense capability across the force earlier. This approach offers the most efficient use of limited, valuable resources while giving maximum flexibility in regard to funding and changing needs of the warfighter. The PATRIOT/MEADS CAP is one of the Army's highest priorities.

The Army and the entire missile defense community continue to strive to improve our Nation's missile defense capabilities. The Army's Fiscal Year 2005 budget request for PATRIOT and MEADS contains approximately \$1 billion to address the terminal phase ballistic missile defense threat. By establishing the CAP, the Joint Integrated Air and Missile Defense architecture will become more robust as MEADS enhancements are integrated into the existing system. Simultaneously, lessons learned from the present missile defense capability will be incorporated into the MEADS follow-on system. We are confident that this

path will provide our service members, our allies, our friends, and our nation with the most capable air and missile defense system possible.

Cruise Missile Defense

As recent events in Iraq illustrate, a real and growing threat from land-attack cruise missiles exists. Cruise missiles are inherently very difficult targets to detect, engage, and destroy because of their small size, low detection signature, and low altitude flight characteristics. It is clear that the required systems and capabilities necessary to counter this emerging threat need to be accelerated to field a Cruise Missile Defense (CMD) capability as soon as possible. The Army's CMD program is an integral piece of the Joint Cruise Missile Defense Architecture. Critical Army components of the Joint CMD architecture are provided by Joint Land Attack Cruise Missile Defense Elevated Netted Sensor (JLENS), the Surface Launched Advanced Medium Range Air-to-Air Missile (SLAMRAAM), and integrated fire control. The Army, with the concurrence of the Joint Staff, has provided additional funding to these critical CMD programs to support an accelerated CMD capability.

JLENS Overview

JLENS brings a critically needed capability to meet the growing cruise missile (CM) threat. As an elevated sensor, JLENS is developing unique lightweight fire control and surveillance radars to detect, track and identify low-flying, hard-to-detect CM threats. JLENS will support engagements using the SLAMRAAM/CLAWS, Navy Standard Missile, and PATRIOT/MEADS weapon systems. JLENS uses advanced sensor and networking technologies to provide precision tracking and 360-degree wide-area over-the-horizon surveillance of land attack cruise missiles. The Fiscal Year 2005 JLENS funding request of \$81.5 million supports acceleration of full JLENS capability, with first unit equip (FUE) occurring by Fiscal Year 2010.

SLAMRAAM Overview

Surface Launched Advanced Medium Range Air-To-Air Missile (SLAMRAAM) will provide CMD to maneuver forces with an extended battlespace, beyond line-of-sight, non-line-of-sight engagement capability critical to countering the CM threat as well as unmanned aerial vehicle (UAV) threats. SLAMRAAM utilizes the existing Joint AMRAAM missile currently in use by the Air Force and Navy, thereby exploiting the jointness DoD is striving to achieve. The Army and Marine Corps are also executing a joint cooperative development for SLAMRAAM/CLAWS to meet the needs of Soldiers and Marines for roles in Homeland Defense as well as overseas deployments. The Fiscal Year 2005 funding request of \$68.3 million supports the goal of having an Initial Operational Capability (IOC) by Fiscal Year 2008.

Sentinel Radar Overview

The Sentinel Radar is an advanced, three dimensional, phased array air defense radar that is a critical component in the Army's ability to conduct air surveillance of the maneuver force. Sentinel Enhanced Target Range and Classification (ETRAC) Radar upgrades will enable the system to support engagements at extended ranges, reduce time required to perform target classification, support next generation combat identification for friendly air, reducing possibility of fratricide, and provide an enhanced positive friendly and civil aviation identification capability. Sentinel is a small, mobile battlefield radar that supports the joint air defense sensor network in detecting cruise missiles, unmanned aerial vehicles, and helicopter threats contributing directly to the overall Single Integrated Air Picture (SIAP) and supporting multiple Homeland Defense missions. The Fiscal Year 2005 funding request of \$13.6 million provides for joint identification and composite sensor netting development efforts, four ETRAC system upgrade kits, and continues development and integration of improvements to support joint interoperability.

Air, Space & Missile Defense Command and Control

The Army is increasing the command and control capabilities on the battlefield. The Army's Air and Missile Defense Command (AAMDC) will integrate TAMDC operations, coordinating and synchronizing joint attack operations, active defense, passive defense and C4 operations in the theater. The Joint Tactical Ground Station (JTAGS) Multi-Mission Mobile Processor (M3P) is a key component in the Army's transformation strategy. It will provide assured missile warning to theater combatant commanders using existing theater communication systems to disseminate processed information through a direct downlink from space-based infrared assets into the joint theater communications architecture. The JTAGS M3P program will deliver cost-effective joint and common systems for both the U.S. Army and U.S. Air Force (USAF) to support their respective Theater and National Strategic early warning and cueing missions. The Fiscal Year 2005 funding request of \$10.0 million continues development and integration of this joint capability in synchronization with the USAF Space Based Infrared System space programs and provides sustainment of the forward deployed JTAGS units supporting the warfighter in EUCOM, CENTCOM, and PACOM.

Directed Energy Initiatives

The Army continues to explore directed energy capabilities for weapon system development and integration into Army Transformation applications in particular against the rocket and artillery threats. The Mobile Tactical High Energy Laser (MTHL) development and integration effort is a follow-on program to downsize the product of the successful US/Israel Tactical High Energy Laser Advanced Concept Technology Demonstration (THEL ACTD). The Fiscal Year 2005 funding request of \$38.6 million continues development and fabrication of a mobile prototype for future testing.

Conclusion

Mr. Chairman, the Army is Relevant and Ready, fighting the war on terrorism, deployed in Southwest Asia and elsewhere, and deterring aggression throughout the world while transforming to meet future threats. With its responsibilities for GMD and PATRIOT/MEADS, the Army is an integral part of the Joint Team to develop and field the Ballistic Missile Defense System. The Army has stepped up to the land-attack cruise missile defense challenge, aggressively developing the joint, integrated and networked sensor, command and control shooter system-of-systems architecture necessary to defeat the emerging threat. We are taking full advantage of integrated fire control to exploit to full advantage the kinematics range of joint missiles. The Fiscal Year 2005 budget proposal continues the transformation of the Army's Missile Defense Force to support the Army's Future Force, the Joint Integrated Air and Missile Defense System, and the BMDS. We continue to build on the recent success of our theater air and missile defense force in OIF. Transformation will continue to define the characteristics of the emerging Missile Defense Force and determine how it can best support the Future Force operating in a joint, interagency, and multinational environment. I appreciate having the opportunity to speak on these important matters and look forward to addressing any questions you or the other members of the Committee may have.

**Statement by
Thomas P. Christie
Director, Operational Test and Evaluation**

**Before the
House Armed Services Committee
Subcommittee on Strategic Forces**

Missile Defense

March 25, 2004

**For Official Use Only
Until Release by the
Committee on Armed Services
U.S. House of Representatives
HASC – March 25, 2004**

Mr. Chairman, Congressman Reyes, distinguished members of the committee, I appreciate the opportunity to appear before you today and provide you with an update on where we stand with respect to testing the Ballistic Missile Defense System, or BMDS. I continue to strongly support the construction and integration of the BMDS Test Bed. This BMDS Test Bed will provide the elements that make up the Initial Defensive Operations, or IDO architecture. While I am very encouraged by the improved testing environment and capability the BMDS Test Bed will provide, I am even more pleased with the increased emphasis on system integration and user involvement I have seen over the past year. STRATCOM and NORTHCOM are developing tactics, techniques and procedures for operating the system. The Missile Defense Agency and the element program offices are making the developmental tests progressively more realistic. They are ground testing with the available system hardware and software and involving soldier operators to the degree possible.

As I have said in the past, the system must be built before we can properly test it. The Missile Defense Agency is still building it. We have just begun to ground and flight-test some of the system components in a tactical configuration. General Kadish is restructuring the BMDS testing program in 2005 to focus on further characterizing and evaluating the performance envelope of the IDO capability. This testing will be more operationally realistic in that test scenarios will include more complex target presentations and engagement geometries. It also will provide a better understanding of the IDO end-to-end performance capability.

The Missile Defense Agency continues to be proactive when it comes to testing. General Kadish has adopted a test-find-fix-test philosophy. This approach provides a higher likelihood of finding design and workmanship problems early in the program. The decision to exploit the Test

Bed elements for an initial operational capability has required some substantive changes in test planning. Test objectives have shifted from demonstrating component capabilities to demonstrating integrated system capabilities. My staff and I remain involved on a daily basis with the Missile Defense Agency and the BMDS element program offices to ensure that operational test issues are addressed in testing. I have recently sent forward for your review, the master test plan for the Block 04 BMDS, along with the developmental master test plans for the four major elements (GMD, Aegis, ABL and THAAD). While statute prohibits me from having authority or responsibility for developmental testing, we are involved in an advisory role in the development of these plans. Aegis and GMD are the two primary elements of the Test Bed that will comprise the near term capabilities of the BMDS IDO. In both the GMD and Aegis programs, operational testers are involved with insuring that developmental testing addresses as many of the operational objectives as possible. The Navy's Operational Test Agency is advising the Aegis missile defense program on how to make their testing more realistic without compromising important developmental testing goals. The GMD program's Combined Test Force effectively integrates the operational testers into the program development activities and the test design and planning efforts. The Service Operational Test Agencies are working jointly, and in concert with DOT&E, to independently advise MDA and GMD Combined Test Forces on test plans, and are independently evaluating all ground and flight test data. My office has reviewed and approved the operational test objectives for the last three GMD integrated flight tests. The Operational Test Agencies, in close coordination with my office, have developed a characterization plan that provides the basis for continuous operational assessments of demonstrated BMDS capability as it is baselined in 2004, and for each Block as it matures. The Missile Defense Agency has supported this effort. I am pleased with their openness and

cooperation with my office and the Service Operational Test Agencies. We have agreed on the data sources that will support both Missile Defense Agency and operational capability assessments. This will help ensure that the test planning will to address both developmental and operational objectives.

The operational test community places less emphasis on component level test results, though we agree that such testing can provide a robust characterization and insight into individual component and subsystem performance. Realistic operational testing requires the integration of all the internal and external system elements, including operator personnel employing approved tactics and doctrine in accordance with their training, to accomplish mission planning and engagement through kill assessment. When integrated system performance is not confirmed by integrated system level testing, the burden of combining component performance into system performance falls to models and simulations. Modeling and simulation are not a good substitute for integrated system testing. However, when modeling and simulation are used to provide context to integrated system hardware in the loop tests, they can help to overcome test limitations and give a more complete picture of mission capability. I feel that MDA is acting responsibly in using models and simulations to estimate system performance, but would caution that since the system is still in development, model based estimates almost always contain uncertainties.

Fielding the Test Bed provides an opportunity to gather operational data on system performance, safety, survivability, reliability, availability, and maintainability. We should expect these data to drive system enhancements. The challenge will be achieving a defensive posture that is flexible enough to accommodate the necessary changes to hardware, software, and processes that will be necessary to maintain a highly available BMDS system, while supporting a

comprehensive testing program that that is designed to mature, improve, and demonstrate mission capabilities through continued development.

In summary, let me say that for years my office has been advocating more comprehensive developmental testing, leading up to realistic operational testing. Specifically we have encouraged programs to do more hardware and software in the loop testing early during system integration to avoid problems typically found during operational testing of complex networked weapon systems. The system integration laboratories being employed by the Missile Defense Agency and its elements are addressing this important aspect of system maturation. The Test Bed is adding flexibility and complexity to the flight test program that will pay dividends in the future. The commonality of architectural components between the Test Bed and the operational system poses management challenges, but should speed the integration of new capabilities as they are confirmed through testing. Mr. Chairman, Ladies and Gentlemen, my staff and I continue to work with General Kadish and his staff to ensure that the capabilities and limitations of the Ballistic Missile Defense System are well characterized as the system proceeds in development and testing.

This concludes my opening remarks and I welcome your questions.

**QUESTIONS AND ANSWERS SUBMITTED FOR THE
RECORD**

MARCH 25, 2004

QUESTIONS SUBMITTED BY MR. SPRATT

Mr. SPRATT. How many other DoD programs have achieved "initial defensive operations" without a full system test?

Mr. CHRISTIE. "Initial defensive operations" is a term unique to the Ballistic Missile Defense System acquisition strategy. For other acquisition programs, the corresponding term is "initial operational capability". Most traditional acquisition programs complete operational testing before declaring an initial operational capability. The Department has fielded some systems without demonstrating full-up end-to-end operational capability in a threat realistic environment. However, we are not aware of any DoD system that achieved initial operational capability without demonstrating some "military utility".

Mr. SPRATT. Since the Ballistic Missile Defense System is developed in continuous spirals, will your organization be constantly involved in testing? What events depend on the successful completion of your test plan? Do you have the authority to impede the release of BMDS blocks?

Mr. CHRISTIE. The Ballistic Missile Defense System (BMDS) is a capability based acquisition program employing spiral development acquisition rather than a traditional requirements-based acquisition approach. Spiral development programs pre-define and build each spiral to provide increasing capability. These pre-defined spirals eventually lead to a final system capability. Similarly, the BMDS capability-based spiral acquisition approach develops capability, but without pre-defining and specifying each spiral—or the final system configuration. The BMDS capability based development approach progresses toward increased capability in two-year increments, or "Blocks". The Department will evaluate each Block to determine if it has sufficient military utility to justify fielding. Each subsequent Block fielded continues to add BMDS capability.

The test planning process for BMDS is unique compared to traditional development programs. Detailed test and evaluation program planning is in one-year increments. The draft 2005 Integrated Master Test Plan combines both development and operational testing objectives, and includes planning for all major test events. The Missile Defense Agency, DOT&E, and the Service Operational Test Agencies (OTAs) will be constantly involved in all phases of testing. The scope of these tests will be consistent with the maturity and capability of the system. Trained operators will be used to the extent possible for all these tests and exercises. DOT&E will provide an annual operational assessment on BMDS progress towards achieving the operational testing objectives identified in the Integrated Master Test Plan. The Department will consider the DOT&E operational assessment during deliberations on how to proceed with the next phase of the program. DOT&E does not have the authority to impede any acquisition program.

Mr. SPRATT. Please explain what changes have been required in the GMD testing program to accommodate the decision to deploy missile defenses this fiscal year. Specifically:

- How many intercept tests have been cancelled since the decision to deploy was taken in December 2002?
- How many intercept tests were postponed since the decision to deploy was taken in December 2002?
- Have any intercept or ground testing programs or projects been hampered by a lack of adequate funding?
- Have you completed testing on whether the interceptor missiles will be able to be housed in silos at Fort Greely?
- If so, when was this testing completed?
- If not, when will it be completed?

General KADISH. There have been no intercept tests removed from the program. The focus of the Groundbased Midcourse (GMD) test program changed following Presidential guidance in December 2002, directing the Missile Defense Agency (MDA) to deploy an initial missile defense capability in 2004. Prior to the Presidential guidance in December 2002, the GMD test program focused on demonstrating the feasibility of hit-to-kill technology, using developmental and test hardware.

IFT-13C, a non-intercept zero-offset fly-by test, is the next Integrated Flight Test (IFT). It was scheduled for March 2004, but has been delayed to December 2004. IFT 14 is the intercept test scheduled to follow IFT-13C. The IFT 13C delays have caused a corresponding delay to IFT-14 and subsequent flight tests. [NOTE: IFT-13C occurred December 15, 2004 but was not successful.]

None of the testing has been hampered by lack of adequate funding.

Yes. The first six interceptor missiles have been emplaced and in-silo checkout operations at Fort Greely are complete.

Mr. SPRATT. What will the difference be between the testing mode and deployed mode of the GMD system? Specifically:

- How much time, if any, will the system be unable to serve as potential defense while in testing mode?
- What assets of the deployed system will not be available during intercept tests?

General KADISH. The primary difference between the testing mode and the deployed mode of the Groundbased Midcourse (GMD) System is that during the test mode the system will be operated under different safety constraints than during operational use.

This is not a simple answer as there are a number of different testing configurations. Procedures have been developed to minimize the impact to the system during testing of the GMD Element. Transition procedures (from alert posture to test posture to alert posture) were exercised during the shakedown process.

This is dependent on the test objectives, scenario and configuration, but impact on availability of operational assets will be minimal.

Mr. SPRATT. Which of the components of the Test Bed will be of use for deployment but not for testing? Which will be of use for testing and deployment? In particular:

- Will the Ft. Greely interceptors play any role in the test program?
- Will the Cobra Dane radar play any role in any scheduled intercept test?

General KADISH. Operational components used in each test will vary, depending upon specific test objectives and operational necessity. All of the components of the Test Bed are available for some aspect of testing, since that was the original purpose. There are some components that are not needed or configured for our operational mission, such as the Ground-based Radar Prototype (GBR-P) and the silos at the Reagan Test Site. The warfighter personnel at Fort Greely, AK and the Joint National Integration Center, Colorado Springs, CO will conduct some integrated flight and ground tests on operational equipment. During these tests, the Ground-based Midcourse (GMD) system will be placed in a test mode.

GMD is studying the possibility of launching interceptors from Fort Greely for flight testing, as was briefed by the previous agency director last spring in congressional testimony. Firm plans for Fort Greely flight testing will depend on the outcome of this study. The Fort Greely interceptors and ground support equipment will be used for in-silo environmental testing and for collection of maintenance and reliability data.

The physical location of the Cobra Dane radar and direction it is facing make intercept testing extremely difficult. Specifically, the location leaves minimal space for an intercept test without over-flying or otherwise alarming other countries. The Cobra Dane radar will be used in distributed ground testing. It is being exercised against targets of opportunity; this allows testing of the operational software. Test planning is underway to use a Long Range Air Launched Target to be launched in the field of view of the Cobra Dane radar for flight test FT-04-5 in fourth quarter FY05.

Mr. SPRATT. How much time will the sea-based X-band radar spend in its home port? While in home port, would it be able to track an incoming attack from North Korea? Does it need to be stationary to be operational? Can it work as part of the IDO while in transit to sites used for testing purposes?

General KADISH. For planning purposes, it was assumed that the Sea-based X-band Radar (SBX) would be at sea 120 days each year, with the remaining 245 days in port. However, since it will be under the control of the United States Strategic Command and the Missile Defense Agency, it will deploy for tests or operational events as directed.

Yes. Adak, AK affords the SBX excellent coverage of threats from North Korea.

No. The radar can operate on the move.

Yes. The long range of the radar allows great flexibility.

Mr. SPRATT. Are there any plans to build a permanent X-band radar for full-time use as a part of the proposed deployed missile defense system? If so, when and is it fully funded in the FYDP?

General KADISH. There are plans to build several X-Band radars that will be a permanent part of the proposed deployed Ballistic Missile Defense System (BMDS) for concurrent test and operations. At present these radars are all transportable. Their location will be dependent upon where they can provide the best coverage against perceived threats. These phased array radars include:

- 1 ea Sea Based X-Band radar (SBX)
- 4 ea Forward Based X-Band radars (THAAD Class)—Transportable (FBNX-T)

The SBX and 2 of the FBX-T radars will be delivered in FY 2006, FY 2007, FY 2008, and FY 2009, respectively.

Mr. SPRATT. When does the Missile Defense Agency plan to conduct intercept tests of the GMD system:

- At night
- Without providing the intercept team the expected target trajectory or launch time
- With a tumbling RV target
- With rudimentary countermeasures
- With multiple RV targets from a single launch?
- With multiple RV targets from multiple launches?

General KADISH. [The information referred to is classified.]

Mr. SPRATT. We were first briefed on the friendly fire incidents involving Patriot in Operation Iraqi Freedom almost a year ago. We're spending money to address those issues. Yet the report still has not been released. Do we know what went wrong? Do we know what to fix? And when will we have that report?

General DODGEN. CENTCOM has released the results of both investigations regarding the two Patriot friendly fire incidents. We have not been waiting for the results of those reports to take corrective action. The Army has been very aggressive in addressing lessons learned from the war. For example, an updated version of Patriot software that fixed the issues identified in the friendly fire incidents was developed, tested and fielded within six months after major combat operations ended. The multi-faceted issues identified in the reports, and verified by a separate Department of the Army Inspector General Report, Army Safety Board Report, and Defense Science Board Report, formed the basis of FY04 reprogramming action that was approved by Congress and is funding nine priority items which can be directly tied to findings in the reports.

Mr. SPRATT. Originally, MDA was to develop systems and then turn them over to the military for operations. Has the Army accepted the GMD system? Who will operate the system after IDO? Will operations be funded through the Army or MDA?

General KADISH. The Army is prepared to operate the GMD system, but will not accept the system until deemed ready for transfer by the Senior Executive Council (Secretary of Defense, Under Secretary of Defense for Acquisition, Technology and Logistics, and Service Secretaries), upon recommendation of the Director, Missile Defense Agency (MDA). The Army, as part of the Joint team, will operate the GMD system once Limited Defensive Operations (LDO) is declared by the Secretary of Defense, and will continue to operate the system through Initial Defensive Operations (IDO) and Full Operational Capability (FOC). The Air Force is responsible for the operation of supporting sensors and command and control equipment, and the Navy is responsible for operation of supporting AEGIS radars. Currently operational and development costs are shared between MDA and the Services. The current policy will be reviewed during the next Program Objective Memorandum cycle in December 2005.

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